DoD's Technical Information Broker

Defense AT&L Interviews
R. Paul Ryan, Administrator
Defense Technical
Information Center

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DoD's Technical Information Broker

R. Paul Ryan, Defense Technical Information Center Administrator

The Defense Technical Information Center collects and distributes authoritative scientific, research, and engineering information to the defense community. Administrator R. Paul Ryan has overseen operations at DTIC as it has become increasingly digitized and far-reaching, and he has managed the establishment of DTIC as an independent field activity that supports hundreds of Department of Defense Web sites and is now refining new research portals.

In December 2005, Dr. Edward Fishpaw, deputy director of the Defense Acquisition University's David A. Acker Library, interviewed Ryan about the work going on at DTIC to provide DoD with access to the most complete repository of defense-related research and information, and on how DTIC is reaching out to its customers all over the world.

Q

In June 2004, DTIC was transferred from the Defense Information Systems Agency and established as a DoD field activity, aligned with the director, defense research and engineering (DDR&E), in the Office of the Under Secretary of Defense (Acquisition, Technology and Logistics). Two questions: What impact has this realignment had on operations at DTIC? And how has it altered the pace of daily operations or the scope of work conducted at DTIC?

A

It has impacted our operations significantly. We have always described our mission as unique within the Department. We are the only organization that broadly collects DoD-wide scientific and technical information; therefore, we frequently considered that we ought to be a stand-alone organization. When it became clear that we were going to transfer back to DDR&E in 2004, I took the opportunity to seek permission to get DTIC established as a field activity. We got all of the i's dotted and t's crossed that we needed to with the Office of the Secretary of Defense, and the decision was made that when we transferred back to DDR&E and the AT&L community and went through all the necessary approval levels, we'd become a field activity.

> We are the only organization that broadly collects DoD-wide scientific and technical information.

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That was crucial for a couple of reasons. When we were with other organizations, there was always the possibility of conflict between the parent organization's mission and our mission. I fully understand a parent organization's mission superseding ours—if I were the director of that organization, I would probably make the same decision—but it didn't always help DTIC. Getting established as an independent activity removed the issue.

In addition, we were going to work directly for the office that was the primary beneficiary of a central repository for scientific data. Dr. [*Ronald*] Sega, who was then DDR&E, took the steps to acquire us back. His vision was to have a single place within the Department where somebody who is working in a particular area or on a particular subject can go to find out who's doing what, what we've done in the past, what's going on right now, and what has been written on the subject—as opposed to such information being scattered throughout DoD. The opportunity to put that in place was a major impact on our operations. We were now working with somebody who saw that a crucial part of his job in supporting the secretary of defense was to have an organization like DTIC working for him. We now had a lot of direct and immediate interaction from our prime sponsor, and the pace quickened.

We knew that simply by being established as a field activity, the price of admission had gone up. We were going to be more visible, and we wanted that because we wanted our mission more widely and better known. In that context, Sega's vision for bringing DTIC into the DDR&E fold has really been our mission all along: to collect all of DoD's scientific and technical information into a central, authoritative repository. Everything is here, and people can go to one place and pick it up, whether it is publicly available or classified information. The current DDR&E, John Young, has expressed his support for DTIC's centralization efforts which save taxpayer money.

Q

When Sega was DDR&E, he called DTIC the "DoD technical information broker." How do you see DTIC's role in supporting the work of DDR&E?

A

I see our role as DoD's technical information broker as being the repository of all the information produced by DoD or on behalf of DoD. In addition, we reach out to other federal agencies because our interests are the same. We work closely with NASA, the Department of Energy, and other organizations with which we have something in common.

Technical information broker is what DTIC has sought to be: a central activity and a knowledge champion. Our goal is to get as much information as possible. We want access to journal articles here at DTIC. When people get them from us, they're free; if they have to go out and purchase the information somewhere else, it is an additional cost for the Department—and in the area of funds, no one is anxious to spend extra money.

Q

In April 2005, DTIC and DDR&E launched the R&E—Research & Engineering—Portal. Purported to be more powerful than Google™, this portal provides one-stop access to DoD research and engineering information. Who is served by this portal? How has it been received?

A

Let me explain the R&E portal. It is actually the mechanism to bring as much information together in one spot as can be done. It's something that has been pushed by DDR&E since we transferred back. It is a four-phase effort.

The first phase was to have a gateway to a number of databases, and we put that up in January 2005. Around April 2005, we completed phase two, which was adding additional databases, search tools, and a news engine, which is a service that goes out to a variety of publications and brings news stories in. In phase three, completed at the end of November 2005, we added our own databases, among them technical reports and research summaries. We developed a retrieval engine called Defense Technology Search, which is an ability to search across several databases simultaneously, while looking at them in different views. The power of this technology search was a very big step.

Phase four has just begun. One of the things we want to provide is complete access to a lot of information with a single sign-on capability, so you don't have to have 16 passwords for 16 systems. You log in, you're vetted, and you're in. We're growing this product right now. The primary people with access to the portal now are DoD customers. There are a couple of other entities here and there that are added, depending on the need. Eventually, the system could have functionality such that no matter who you are, if you have a business relationship with DoD or DTIC, we can provide a registration system and can filter your accessibility and steer you to the information that you are authorized to receive.

We put a lot of information into this portal, and we've worked hard to build the infrastructure. It's DTIC's number one priority and very heavily in demand by DDR&E: a central source with one sign-on to lots of databases for technical information, budgeting information coming out of the budget submissions and as the budget works through the process with Congress, lab demographics, or scientific information.

R. Paul Ryan

*Administrator,
Defense Technical
Information Center*

R. Paul Ryan was appointed the administrator of the Defense Technical Information Center in November 2005. DTIC is a DoD field activity and the central source within DoD for acquiring, storing, retrieving, and disseminating scientific and technical information to support the management and conduct of DoD research, development, engineering, and studies programs. DTIC also provides information tools and systems to support Pentagon executives and managers. DTIC hosts, develops, and maintains 150 of DoD's major Web sites.

Ryan was previously the deputy administrator responsible for DTIC daily operations, budget, and personnel, and for developing and implementing strategic business plans and processes. He guided the workforce through numerous robust organizational restructuring events without degradation to customer service and was instrumental in transforming DTIC from a paper-based workflow to an electronic environment. Ryan's leadership skills were exemplified as he transitioned DTIC from a subordinate organizational structure to its establishment as a DoD field activity.

Before his appointment as deputy administrator, Ryan was director, Office of User Services and Marketing. He developed and implemented a marketing program and a product management program, and improved user services for DTIC. He has been a project officer in the Office of Information Science and Technology, and the deputy program manager for the DoD Gateway Information System. Between 1972 and 1975, Ryan held positions for the U.S. Army at Picatinny Arsenal, Dover, N.J. From 1975 to 1984, he held positions at the Ballistic Research Laboratory, Aberdeen Proving Ground, Md., where he provided scientific and technical information on major Army weapons systems and combat technology.

A native of Philadelphia, Pa., Ryan earned his bachelor of science degree in mathematics from Villanova University, and a master of science degree in information science from Drexel University. He is a member of the Beta Phi Mu International Honor Society. He has received the Col. H.H. Zornig Award for outstanding support to the research and development mission of the U.S. Army Ballistic Research Laboratory. He has been awarded the Outstanding Manager Award and the Meritorious Civilian Service Award from the Defense Logistics Agency, the Exceptional Civilian Service Award from the Defense Information Systems Agency, and two Hammer Awards from the National Performance Review.

My main goal is to get people to recognize that strong and robust as that infrastructure may be, it has to have content behind it. You need to fill those databases with relevant information. I'll go back to John Young's strong desire to make a content-rich system. We are going to have the information that is missing now. We have an aggressive network to go out and identify what we should have in the databases and bring it in.

To the second part of your question: Let me give you a glimpse into how well it has been received. When we're demonstrating at a conference, people who see it want to sign up and get access immediately. That was being requested so often that we created an easy registration process that allows them to sign up at the conference. The only requirement is they have to be able to think of a password and then remember it—but it's only one password.

Q
Can you illustrate how DTIC is providing technical information to directly support the warfighter?

A
There are a couple of ways we do that. At the very basic level, there are reports in our collection that the warfighter needs. Something that pops into my head is a situation during the first Gulf War. There were a lot of snakes out in the desert, and warfighters needed to be able to identify them. We provided reports for identifying snakes in the desert directly to the warfighter in the field.

On a broader level, you probably know that we operate information analysis centers under several contracts. These IACs are oriented to a very specific slice of technology that the Department is interested in, and a lot comes out of the IACs that has a direct relationship to supporting the warfighter. As an example, an IAC in manufacturing technology came up with a "mobile parts hospital." That is the capability to manufacture parts for equipment in the field as opposed to coming stateside to obtain them. The Department just established its third mobile parts hospital in Afghanistan a month or two ago. We've also got one in Kuwait and one in Iraq. They have supplied and manufactured over 10,000 parts in theater.

There are many such examples of work the IACs are doing, whether it's the Survivability IAC, the Chem-Bio Defense IAC, the Chemical Propulsion IAC, and so on. Combatant commands request help in a specific area, and the IACs are able to turn around and provide answers to specific questions, often within four to eight hours. Other re-

quests for help require a significant amount of research, but the IACs are superb in addressing these requests. The IAC program is a very important piece of what we do and a very direct response to what needs to be done to support the warfighter.

The third thing we do that directly supports the warfighter is to manage a whole host of Web sites here for the Department. We got into the business of hosting Web sites at the very early stages, and we host about 150 of the

DoD's sites out of DTIC. We're not responsible for the content, of course, but for hosting, security, and everything else. One of the sites is *Defense Link*, and we find a lot of servicemen and women overseas get their news from *Defense Link*. We put the *Defend America* Web site up in the weekend after 9/11, and it was another opportunity for the secretary of defense to get his message out. For a time, we supported the *America Supports You* Web site, which provided an opportunity for citizens to send messages to servicemen and women. The anti-terrorism enterprise portal is another example. The most current and reliable information on anti-terrorism that all the combatant commanders need is in one secure place. When it gets right down to it, even the R&E portal will be directly useful to the warfighter.

Another example is the Iraqi Virtual Science Library. There is a concern to ensure that the Iraqi scientists and engineers have access to information to help rebuild Iraq's infrastructure. They lost all their information sources before and during the war—many libraries and research institutions were decimated. There is an effort under way between the Defense Threat Reduction Agency, DDR&E, DTIC, the Department of State, and the National Academy of Sciences to work with some journal publishers to provide access to a great deal of scientific literature—and I am talking about thousands of journal titles. Iraqi scientists who get vetted as people working to improve the situation in Iraq can come into this virtual library system for data they would otherwise not have, in order to continue their work.

Q
One of DTIC's mandates is to prevent unnecessary or redundant research, thus eliminating the possible waste of taxpayer money and ensuring that researchers are maximizing their productivity. What tools do you have in place to ensure researchers are not overlapping their efforts?

A
There are several ways that we help address that problem. One is to make our collection repository as complete as possible so that when researchers come in looking for information, we're sure they will find it; and if money has been spent on that kind of effort in the past, they will know about it. We do a lot in the area of educating people: conferences, hosting visits to DTIC, outreach by the staff, visits by some of our regional offices, and training opportunities.

There are DoD requirements that say scientists, researchers, and program managers will search the research summary database—our database of ongoing DoD research—to make sure there is no duplication, so it makes sense for these same scientists, researchers, and PMs to look at our technical reports. The independent research and development database is also important; it contains

information coming from DoD's top contractors. That information is proprietary, and we protect it that way—it is a limited database and password-protected. It is a valuable source.

Q

You've been credited for transforming DTIC from a paper-based workflow to an electronic environment. How were those changes implemented? What benefits have accrued since making this transition?

A

I don't want to take personal credit for having done that because it's been a group effort over a long period of time. As we discussed at the beginning of our conversation, more and more information is available, and we needed more efficient ways to handle the volume. Our Electronic Document Management System became operational in November 1994. That was the culmination of an effort that grew out of a DTIC technical project. We went through some feasibility efforts and prototypes, but it blossomed into a large-scale, end-to-end system to take paper documents and transform them into electronic documents. We built a system to create an electronic record of a document as soon as it hits us. From that point on, every DTIC function that adds

One of the things we want to provide is complete access to a lot of information with a single sign-on capability, so you don't have to have 16 passwords for 16 systems. You log in, you're rated, and you're in.

value to the document is done electronically. It's been a process that has continued to evolve, and in January 2005, we reached the point where more information was coming to us in electronic form than as hardcopy. We are now more digital than paper.

Digital has a lot of benefits. First of all, there's clarity of color of the original. Also it helps in the preservation of the information. We are now looking at large-scale digitization of microfiche to create electronic documents—and we have a whole collection of microfiche and microform.

Although we were digitizing microform on an as-needed basis, we found state-of-the-art equipment to speed up the process and we began backfile digitization in April 2005. With a new machine that really accelerates the process for the microfiche, we've been able to digitize a million pages or so between April and October—a significant number for that period of time. We began with what would scan best and then worked our way backwards, moving on to the less-than-top-quality images and so on. We're experimenting to provide the best possible electronic image.

Q

It is a transformation process, this digitization. The librarians appreciate DTIC's use of handles—a persistent identifier or persistent name for a digital object regardless of where and how it is stored. URLs change and disappear, and it's very frustrating to be searching for something online only to find the link is dead or the document isn't there.

A

The handles are another thing that grew out of a DTIC projects requirement, where we looked at new applications and said, "That makes sense." We've been applying handles to our documents for close to a year because lost documents are a big issue.

Q

While the majority of the over 11,000 registered DTIC users are DoD employees, an appreciable percentage are users from organizations contracted to the government and from non-DoD federal agencies, colleges, universities, and research centers. What kind of outreach is done to work with such customers? How do their accounts differ from traditional DoD user accounts?

A

The first thing I'd say is the number is now in excess of 12,000, and it's growing continuously. And those are just the people that need to register with DTIC in order to get to limited or classified information. A good deal of DoD's information is publicly available the day it's created, and a lot of our customers are coming through the public Web
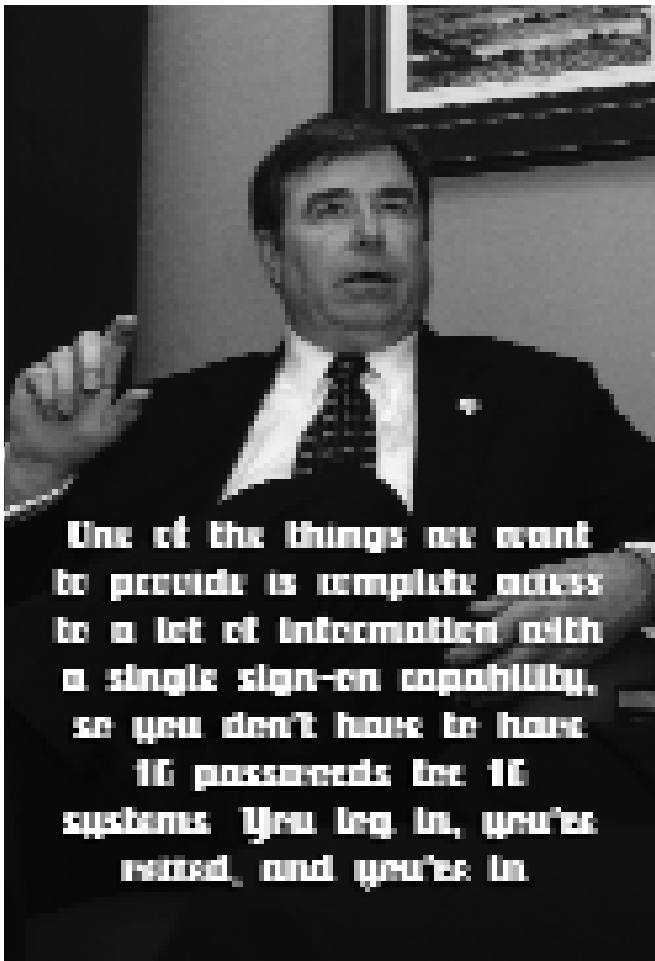
site to find information. The majority of users are from DoD, but contractors account for the second largest group. And they are contributors as well as customers, so we are talking to them constantly and adding registered customers in that category. We find that contractors recognize DTIC as a place that allows them to save money by quickly finding what they are looking for, and obviously cost saving is important to them. It's the same with the universities.

If you have a legitimate business relationship with DoD or DTIC, we'd like you to register so that you can gain access to everything we are capable of providing you. We've got a good marketing program in place to inform people of our resources. We're looking at different avenues to market to get our message out. We've redesigned the first page on our Web site to bring more people to <www.dtic.mil> for what they need. Standing up as a field activity allows us to deliver our message from a more visible position in the Department.

Q

DTIC works to provide the general public with access to DoD scientific and technical research. What types of information are provided to the average citizen? How is DTIC working to publicize this access?

A

The work we do that makes the information from the Department available to the public is essentially a by-product of our work to make that information available to DoD. We recognize DoD and the DoD community as our prime customer base. But we also found that at essentially minimal cost, it's easy to make the data accessible to the public. Through tax dollars, the public certainly helps contribute to the creation and management of t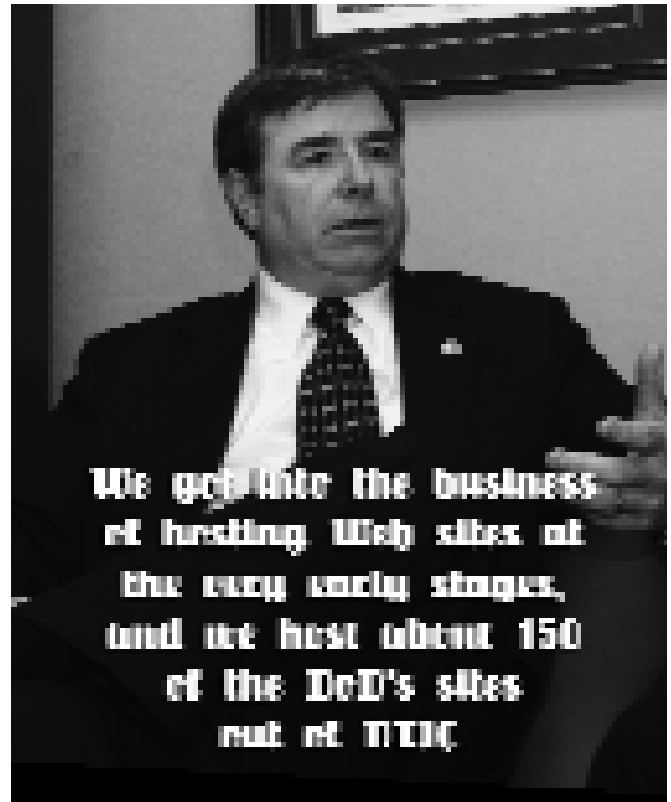he records of research. We don't keep any long-term record of who is looking at the database, but by aggregating user statistics at a higher level, we get a general idea of who our customers are. It turns out that a large number of them are coming from .mil accounts. We don't go out and publicize and put a lot of money into making our information available to the public, but we have taken the easy steps to make it available, and it has gotten a lot of usage on a regular basis.

Q

What you say makes me think of how I can talk to DAU students about using the public search site, and add a link from the Acker Library resource page on the DAU Web site to connect with DTIC.

A

Registering with DTIC is really important and should be pretty painless for your students. About 42 percent of what DoD produces (and that number changes by a couple of percentage points every time you look at it) is avail-

We got into the business of hosting Web sites at the very early stages, and we host about 150 of the DoD's sites out of DTIC

able to the public. But there's another 50 percent that's still unclassified but carries some limitations. You can get to that information without having to go through a secure site, but you must be registered. Fifty percent can be a lot to overlook if you are accessing only the public information. The remaining 8 percent is classified and obviously a bit more difficult to get to. We're trying to make sure that people who need access to the information we provide know there is a side that they're not going to get to if their searching is limited to public information.

Q

You mentioned DTIC's IACs, which help customers locate, analyze, and use scientific and technical information in specialized subject areas. The IACs possess historical, technical, scientific, and related data that are collected on a worldwide basis. Can you describe how the IACs operate? How do they enable customers to obtain the best and most updated information?

A

There are DTIC-managed IACs in very specific areas, as I mentioned earlier: chemical-biological defense, sensors, information assurance, survivability, chemical propulsion, advanced materials, reliability, data and analysis, and weapon systems. DTIC provides a level of funding for the IACs that allows them to operate at a basic level. They have staff and they have the capabilities to collect information worldwide and process the information in their systems. They also collect information at a very deep level in the specific subject area for which each IAC is respon-

sible. We also make sure that information gets pulled back into DTIC.

The IACs are contractor-operated. This is an important feature of the program. The contracts are written so that if somebody in DoD has a need for a particular study or analysis, an IAC can tap the expertise of its larger organization. Battelle, Booz Allen Hamilton, Alion Science, ITT Industries, Georgia Tech Applied Research, Wyle Labs, and Johns Hopkins University are institutions that operate the IACs.

If someone has a question that an IAC can answer in four hours or less, we provide the response at no charge. If it goes beyond four hours, then we work with the requester and try to figure out what it is he or she is looking for—does it need two days' worth of effort to get a technical issue answered, or does it need two months' worth of heavy duty work? There is a whole range of services at differing levels of requirements, and we are able to work with the customer. It's a very flexible program.

Q

The Independent Research and Development database contains over 171,000 descriptions of R&D projects initiated and conducted by defense contractors independent of DoD control and without direct DoD funding. Such information is used to identify contractors with expertise in areas of interest to DoD and to avoid DoD duplication of industry R&D efforts. How are you working to foster relationships between DTIC and industry and further promote this sort of synergy?

A

The IR&D is one of the three main DTIC databases. We have the technical reports; the research summaries, which are DoD's record of work that is in progress or completed; and IR&D, which is the industry counterpart to that research summary. It is important to the Department to take advantage of the research done by industry. We support the Department's efforts to make use of that database in talking to industry. We have a program manager dedicated to going to industry meetings and conferences, and working with industry to explain the benefits of submitting data, telling them how it is used, helping them submit. The number of IR&D records coming into DTIC has been on the increase ever since our PM has been involved.

Q

Are there other specific areas that you would like to talk about?

A

There are a couple of things I'd like to say. One of my concerns is that too many people within DoD or the public in general believe that all they need is an Internet search engine to find whatever it is they are looking for. That

may be okay if you're trying to price the camera you're buying your brother-in-law for his birthday. But it's not okay, in my opinion, at the level of what we are trying to do here in the DoD. Those Internet search engines can't get into our databases, for instance. They don't get into anything limited, much less classified. We're trying to educate people that limiting their searches to the general Internet is not the most productive way to do research.

The redesigned DTIC home page links you directly to a search engine. We redesigned it for a couple of reasons. First, it recognizes that the key reason people come to the DTIC Web site is to find information, so we put up a page that allows them to get down to business immediately. They type in the subject and the engine searches all the Web sites that are linked. There are several ways to refine the search—for example, if you want to search only the DTIC scientific and technical database, you can narrow your search in that way. You can also search all DoD-wide Web sites. We've made links to other Internet search engines and resources—for example <www.first.gov> and <www.science.gov>— and we provide a link that allows for a search of about 10 different massive databases simultaneously.

So now we've got a way for people to perform a common search in a broad collection of databases they may not be familiar with. What we're doing is trying to lure them back to recognize that there's more at DTIC than they'd get using any other Internet search engine. The open archives initiative is another way to make more of our information available to be spidered [*a spider is a program that browses the World Wide Web and creates a copy of all pages visited so that a search engine can later index the downloaded pages to provide fast searches*] by Worldcat®, by Google, by Yahoo®, and so on, so if you're looking for something defense-related using an Internet search engine, the record from DTIC will show up—not something that has been pulled and put into an independent database to sell back to DoD. It will be *our* database, *our* record, and there will be a connection back here to DTIC.

We're bringing the DTIC home page more in line with what people are used to seeing on other search engines and giving them a lot of flexibility. There are several links that take you right back to the standard DTIC Web site if you need information on our organization.

The other thing I'd like to say is that DTIC has almost 300 people, all pulling together and working the mission. We worry about the care and well-being of our staff—that's essential. We are a field activity, not huge, but it's amazing some of the important things we do in a kind of behind-the-scenes role.

I believe that DTIC has been very responsive to the needs of the department. When the department's leadership

requests a Web site be created quickly, we are able to establish something such as *Defend America*. We put that site up over a weekend. I am very proud of the men and women of DTIC and our support contractors as being very dedicated people. Our satisfaction comes from knowing our behind-the-scenes efforts are noticed. During a stretch of two or three weeks in the summer, the president mentioned the *America Supports You* Web site in a national televised address. At the time, the Web site was hosted and supported at DTIC. Not too long after that, the secretary of defense mentioned the *Defense Link* Web site—again, a Web site we host at DTIC. In the same time period, one of our employees got a Joint Civilian Service Achievement Award signed by Air Force Gen. Richard B. Myers, the then-chairman of the Joint Chiefs of Staff, for the work he had done for J5 (the Directorate for Strategic Plans and Policy, the Joint Staff) in creating a Web site for a multilateral conference. It saved them a lot of resources, which were scarce because of the number of people who were deployed. Although just one employee got the benefit of the award and certainly deserved it, it's important for the organization to know there's something hanging on the wall here at DTIC from the chairman of the Joint Chiefs of Staff. It gives a feeling of general accomplishment and pride.

Q

In an article I was reading recently, I found something of interest: In 2004, DTIC worked on the Web site of the Regional Air Movement Control Center Council (RAMCC), which coordinates the movement of fixed-wing aircraft in support of coalition military, humanitarian, and commercial air operations over airfields in Iraq, Afghanistan, and Pakistan. The site was used quite heavily during the Afghan inauguration ceremony in December 2004. Do you have a story that goes with this?

A

No story beyond the fact that it's typical of the important work we're asked to do. We got into this Web business for the Department very early on, and we are very good at it. I believe we're successful not simply because we have incredibly sharp information technology people—although we do have incredibly sharp IT people—but also because we have incredibly sharp librarians and technical information specialists who know how to organize information, how to create navigation tools.

You asked earlier how we directly support the warfighter. RAMCC is an example. In the summer of 2004, that Web site was used to help guide fixed-wing aircraft in and out of Afghanistan. But it's not only the warfighter that RAMCC supports. It was used for the Afghani presidential inauguration, and it has been used for elections in various cities. We also support the Federal Voting Assistance Program, which provides military personnel overseas and other U.S. citizens abroad information about voting.

I believe we're successful not simply because we have incredibly sharp information technology people ... but also because we have incredibly sharp librarians and technical information specialists who know how to organize information, how to create navigation tools.

Q
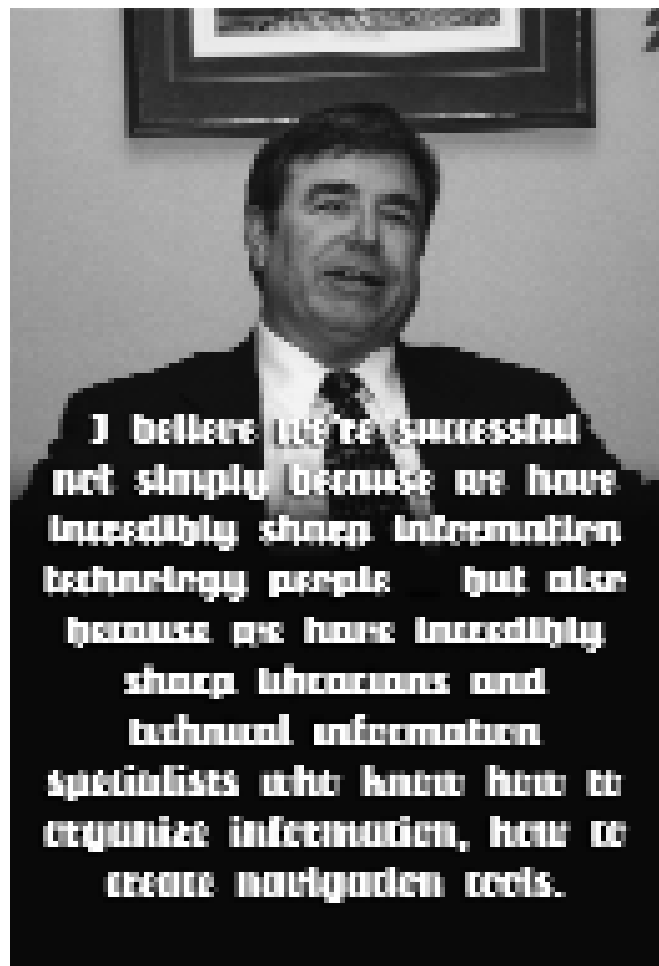
From your unique perspective, how can DAU improve or enhance the curriculum to better support DTIC?

A

I think that question ties back to a previous question where we talked about one of the tools we use here to increase the usage and to prevent redundant research—education. I think there is certainly room to work more closely with DAU in finding the appropriate places to insert information about DTIC into the curriculum to enhance students' ability to gather information at that point and be aware of the capabilities of DTIC throughout their careers.

Q

Mr. Ryan, I appreciate your taking time for this interview with Defense AT&L*, and I want you to know that in the librarian world, DTIC has an outstanding reputation.*

A

Thank you. We're a small organization with a long history, and we've just scratched the surface and hit the highlights today. My main focus is to continue increasing the amount of information we receive and provide—that is increasing the content—and to spread the word much louder about taking advantage of what is available at DTIC.

America's Imprudent and Unsustainable Fiscal Path

Fiscal Challenges Confronting DoD Will Necessitate Better Acquisition Outcomes

David M. Walker

A fiscal and financial crunch is coming. It's not a matter of if, but to what extent and at what time. The government is on a "burning platform," and the status quo way of doing business is unacceptable.

This article provides *Defense AT&L* readers my broad perspective of where the country is and where we are headed from a financial and fiscal standpoint. I also outline some of the other challenges that the nation faces because our fiscal and financial crunch overarches everything. There will ultimately be a ripple effect on every department, agency, program, and policy in the federal government.

High-Risk Areas

We have large and growing structural deficits in the out-years. We have rising public expectations for results. We also have a number of trends and challenges that face us as a nation and our position in the world that don't have geopolitical boundaries—whether you're combating terrorism, whether you're fighting infectious diseases, whether you're promoting clean air and water, or whether you're trying to assure stable capital markets. We have to be able to partner more internationally as well as domestically—partner for progress between governments, between the public sector, private sector, and not-for-profit sector.

We have additional resource demands due to Iraq, Afghanistan, incremental homeland security costs, and recent natural disasters. We also have a range of government performance, accountability, and high-risk areas. Figure 1 shows the Government Accountability Office's latest high-risk list. These programs represent areas at greater risk of fraud, waste, abuse, and mismanagement; and others at risk of not achieving their mission. DoD is prominently represented—14 of 25 areas. DoD has some of the best people, both in uniform as well as civilians. The total force of civilian, military, and contractor communities is very capable—an absolutely awesome power. DoD is No. 1 in the world in fighting and winning armed conflicts—it's an A + . But in my opinion, DoD is a D (rated on a curve and giving the benefit of the doubt) on economy, efficiency, transparency, and accountability.

Wants vs. Needs

Business transformation within DoD has been a challenge since 1947, and a number of things are going to have to be done fundamentally differently in order to get DoD to where it needs to be. For every dollar that DoD spends today on a want is a dollar it will not have for a need tomorrow—because the crunch is coming.

Let me give you a little bit of a financial perspective so you can put this in context. In 1964, almost half the federal budget was for defense. If you fast forward 40 years to 2004, it was down to 20 percent. The 2005 numbers haven't been released yet. Where did the money go? It went from defense to Social Security, Medicare, and Medicaid. That trend cannot continue.

In 1964, 7 percent of the federal budget was for interest. The same was true in 2004. Today, however, the interest portion of the budget is escalating rapidly because we're adding debt at or near record rates and interest rates will go up. We are very fortunate that the Chinese, the Japanese, and other countries save a lot, because we don't. Right now, what they're doing is loaning us their excess savings, which means that they end up holding an increasing piece of our nation's mortgage—and that could have serious implications for our future economic and national security.

Walker is the comptroller general of the United States, the nation's chief accountability officer, and head of the U.S. Government Accountability Office. As the head of GAO, he oversees a legislative branch agency whose mission is to help improve the performance and assure the accountability of the federal government for the benefit of the American people.

FIGURE 1. GAO's High-risk List

High-Risk (HR) Areas	Designated HR
Addressing Challenges in Broad-based Transformations	
Protecting the Federal Government's Information Systems and the Nation's Critical Infrastructures	1997
Strategic Human Capital Management[a]	2001
U.S. Postal Service Transformation Efforts and Long-Term Outlook[a]	2001
Managing Federal Real Property[a]	2003
Implementing and Transforming the Department of Homeland Security	2003
Establishing Appropriate and Effective Information-Sharing Mechanisms to Improve Homeland Security	2005
DOD Approach to Business Transformation[a]	2005
DOD Supply Chain Management (formerly Inventory Management)	1990
DOD Weapon Systems Acquisition	1990
DOD Business Systems Modernization	1995
DOD Financial Management	1995
DOD Support Infrastructure Management	1997
DOD Personnel Security Clearance Program	2005
Managing Federal Contracting More Effectively	
DOE Contract Management	1990
NASA Contract Management	1990
DOD Contract Management	1992
Management of Interagency Contracting	2005
Assessing the Efficiency and Effectiveness of Tax Law Administration	
Enforcement of Tax Laws[a,b]	1990
IRS Business Systems Modernization[c]	1995
Modernizing and Safeguarding Insurance and Benefit Programs	
Medicare Program[a]	1990
HUD Single-Family Mortgage Insurance and Rental Housing Assistance Programs	1994
Medicaid Program[a]	2003
Modernizing Federal Disability Programs[a]	2003
Pension Benefit Guaranty Corporation Single-Employer Insurance Program[a]	2003
Other	
FAA Air Traffic Control Modernization	1995

[a] Legislation is likely to be necessary, as a supplement to actions by the executive branch, in order to effectively address this high-risk area.
[b] Two high-risk areas—Collection of Unpaid Taxes and Earned Income Credit Noncompliance—have been consolidated to make this area.
[c] The IRS Financial Management high-risk area has been incorporated into this high-risk area.

In 1964, two thirds of the budget was discretionary spending decided by Congress each year. In 2004, discretionary spending went down to 39 percent. Stated differently, 61 percent of the federal budget was on autopilot in 2004, and that percentage is growing every year. It should come as no surprise that defense is in discretionary programs such as homeland security, the judicial system, education, transportation, the environment, and the GAO. These are all important expenditures, some of which are in the Constitution of the United States. Yet, these items that are deemed to be mandatory spending are squeezing out discretionary spending. The past cannot be a prologue.

Figure 2 shows the bottom line numbers in 2004/2005. You need to add 9 zeros to each of these numbers to get a sense for what they really look like. In 2004 we ran a $412,000,000,000 unified budget deficit. But that's really misleading because we spent every dime of the Social Security and Medicare surplus on other government operating expenses. We ran an operating deficit of $567 billion. Now of that $567 billion, only a little over a $100 billion had anything to do with Iraq, Afghanistan, and incremental Homeland Security costs. (By incremental I mean post-9/11 costs. Before 9/11, we had the Coast Guard, the Border Patrol, Customs Service, and the Secret Service.)

We haven't been in a recession since November of 2001. We had the strongest economic growth rate of any industrialized nation in 2004/2005. How to justify deficits of that size? The answer is you can't. It's fundamentally imprudent. We are mortgaging our kids' and our grandkids' future. They're going to pay a big price unless somebody starts doing something different—and soon.

Demographic Tsunami

In 2008, the first baby boomer reaches 62 and therefore is eligible for Social Security. In 2011, the first baby boomer reaches 65 and is therefore eligible for Medicare. At that point in time, we are at the beginning of a "demographic tsunami" that, unlike most tsunamis, will never recede. It will put incredible pressure on the budget, the economy, workforce factors, and a variety of other areas.

We are not well prepared. Our nation's budget works largely on a cash basis—cash in, cash out. We don't have a capital budget. There are a number of other challenges associated with our budgeting process. Most of the money is one-year money; there is some multiyear money and some no-year money, but it's mostly one-year money.

In 2000, if you added up the total liabilities of the United States and the unfunded promises attributable to Social Security and Medicare, it was $20 trillion—that's 20 followed by 12 zeros. In four years it went from $20 trillion

FIGURE 2. Fiscal Year 2004 and 2005 Deficits

	Fiscal Year 2004		Fiscal Year 2005	
	$ Billion	% of GDP	$ Billion	% of GDP
On-Budget Deficit	(567)	(4.9)	(494)	(4.0)
Off-Budget Surplus*	155	1.3	175	1.4
Unified Deficit	(412)	(3.6)	(319)	(2.6)

* Includes $151 billion in fiscal year 2004 and $173 billion in fiscal year 2005 in Social Security surpluses and $4 billion in fiscal year 2004 and $2 billion in fiscal year 2005 in Postal Service surpluses.

to $43 trillion. I expect the number for 2005 will be at least $46 trillion. That number is going up every minute of every day for three reasons: continued deficits; demographic destiny; and compounding interest costs.

When you're an investor, compounding works for you; however, when you're a debtor, it works against you. To put these numbers in perspective, the 2005 number is likely to be $46 to $50 trillion, but probably closer to $46 trillion. The estimated net worth of every American in the United States was estimated in 2005 at $48.5 trillion. Under the status quo, we would have to confiscate nearly the entire net worth of every American and invest it at Treasury rates in order to deliver on our current promises. Obviously, that is not going to happen. We need to recognize the reality that we are on an imprudent and unsustainable path—and we need to change course.

Figure 3 is based upon four assumptions that the Congressional Budget Office is required to make by law:
- No new laws will be passed in the next 35 years.
- Discretionary spending, which includes national defense and homeland security, etc., will only grow by the rate of inflation in the long term.
- All cuts in 2001 and 2003 will sunset—none will be extended in whole or in part, and none will be made permanent.
- The alternative minimum tax (that bait and switch surtax that I have had the opportunity to pay in two of the last three years) will not be "fixed."

The line in Figure 3 represents spending as a percentage of the economy with inflation taken out. If the bar is above the line, that's a deficit. Congress is now using this simulation to make its annual budget and appropriations decisions. Clearly, there is a large and growing deficit starting after 2015. Many say that's a way off. Maybe we'll grow our way out of the problem and maybe not. Maybe the assumptions are too pessimistic and maybe not. How many people would believe these assumptions? I would venture to say no one reading this article. Yet, all four of these are behind the simulation in Figure 3.

Imprudent, Unsustainable Path

Clearly, we are on an imprudent and unsustainable path. The status quo is not an option. Faster economic growth can help, but there's no way we're going to grow our way out of this problem. If you're a student of economic history or have passed basic math, the numbers just don't work. What are we going to have to do?
- We are going to have to re-impose budget controls on both the tax and spending side of the ledger.
- We're going to have to make sure that we're considering the long-term affordability and sustainability of tax cuts and spending proposals before they're enacted into law.

FIGURE 3. Spending as a Share of Gross Domestic Product (GDP) (Under Baseline Extended)
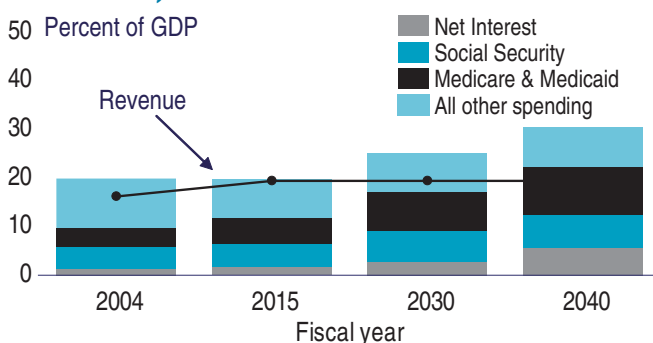
- We're going to have to revise our financial statement presentation to be able to show the large and growing financial burdens and the intergenerational consequences of those burdens if we don't start doing something about them.
- And we're going to have to develop a set of key national outcome-based indicators—safety, security, economic, social, environmental—to help understand where we are, where we're making progress, where we're not, and how we compare to other nations.

The Crunch is Coming

The United States spends $2½ trillion a year and foregoes $800 billion plus in some years in revenues because of tax preferences; yet in most cases, we have no idea whether our programs and policies are working or not because we don't have outcome-based indicators to be able to assess whether we're doing well or not. The United States is No. 1 in the world in many things including our military, but we are not No. 1 in the world in everything. In fact, we are laggards in a number of very important areas.

For example, we're No. 25 in the world in K-12 education. In a knowledge-based economy, that is a flashing red light. We spend 50 percent more of our economy on healthcare than any nation on earth, yet our life expectancy is less than most industrialized nations. Our infant mortality rate is higher than most industrialized nations, and our medical error rate is much higher than most other industrialized nations. We need to recognize and understand how we're doing because, ultimately, we're going to have to restructure entitlement programs; reexamine the base of discretionary and other spending; review and revise tax policy, including tax preferences; and determine what level of revenues will be necessary in order to pay our nation's current bills and deliver on our future promises.

The Defense Department and Homeland Security have largely been given a pass from budget pressures to date, but the crunch is coming.

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21st Century Challenges

The Government Accountability Office has published a report, *21st Century Challenges: Reexamining the Base of the Federal Government,* <http://www.gao.gov >. The document raises 200 + illustrative questions about government that need to be asked and answered. It also contains a hypothesis I believe is true: that a vast majority of the federal government's policies, programs, functions, and activities are based upon conditions that existed in the United States and in the world in the 1950s and the 1960s.

Let me give you two examples. The definition of *disability* that is used for most disability programs in the United States was determined in 1947. The organizational model, along with the classification system and compensation practices for the federal government, were determined in the 1950s.

DoD Transformation

Let's transition to a topic everyone's talking about—transformation. What is transformation? One possible definition for DoD is:

> *Creating the future of warfare and protecting our national security while improving how the department, including all of its various component parts, does business in order to support and sustain our position as the world's preeminent military power within current and expected resource levels.*

What are we trying to accomplish with transformation? We're trying to create a more positive future by maximizing value and mitigating risk within current and expected resource levels. I picked these words intentionally. We're trying to create a more positive future. We're not just trying to build upon the past.

Incrementalism

Part of the problem with government is incrementalism. You assume the base of government is okay and therefore the big debate is whether we are going to plus-up or reduce the base. The base is unaffordable, unsustainable, and unacceptable. We have to think outside the box, to create a more positive future learning from lessons from the past, to maximize value, and to mitigate risk. Notice I didn't use the word minimize. As with investments, you cannot maximize value if you minimize risk. You need to manage risk. You have to take prudent risk, but you need to understand what you're doing, do it conscientiously, and try to take steps to mitigate risk—this is very important for DoD, where risk management has not been done with an eye to current and expected resource levels.

The Big A

For acquisitions—the so-called "Big A"—the difference between wants, needs, affordability, and sustainability is large and growing. DoD must reconcile the Big A because the longer we wait, the more money we're *not* going to have to meet our needs in the future. The irony is that in reconciling that Big A within the Services, among the Services, or enterprise-wide—whether for weapon systems or information systems—we must understand that we need to go about the process of determining what we're

Photographs of David M. Walker speaking at the Fall 2005 PEO/ SYSCOM Commanders' Conference by SPC. Michael Lindell, USA.

13

Defense AT&L: March-April 2006

investing in, but in a fundamentally different way. We need to understand what the credible and probable threats are for today and tomorrow. We need to make sure that we're allocating our resources to address the most likely current and future threats. We're not doing that adequately right now. After all, given current and projected budget deficits, every dollar we waste on unneeded wants today is a dollar we won't have for needs tomorrow.
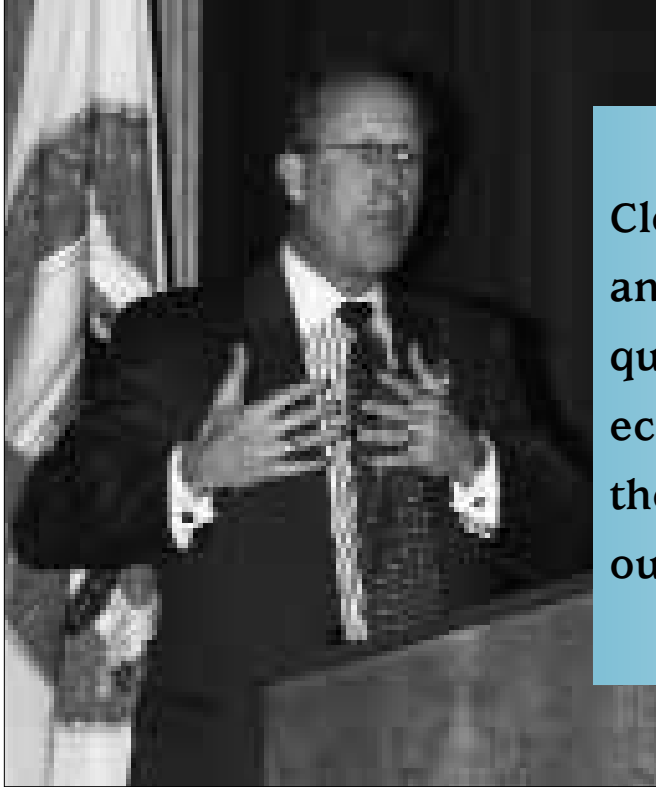
Changing the Culture
One of the things that has to happen is that we've got to change the culture in government. Consider AT&T before divestiture: it was very much like the government in its culture because it didn't have a lot of competition. It was too hierarchical, too process-oriented, too stovepiped, and too inwardly focused. The company was comfortable with the way things were and didn't try to think outside the box to determine how things *should* be.

Commitment from the Top
In order to make transformation a reality, a lot of things are going to have to happen, one of which is commitment from the very top, meaning the president of the United States, the secretary of defense, and other top-level leaders. For DoD that means the SES and flag officer levels—it's got to be the total force, including the military, civilian, and contractor communities. We have a shared responsibility. We all have a shared stake in the outcome. The irony is that with the consolidation of the defense industry, many of the reconciliations that are going to have to take place involve the same contractors. It's not a matter of whether or not the contractor's going

to get work—it's a matter of what they're going to work on. We have not recognized that reality. We have not begun to reconcile the Big A, and I believe we're going to be hurting if we don't do it soon.

Fundamental Truths of Change Management
Part of the problem with committed and sustained leadership is that the top people within government tend to change jobs. But when you're making fundamental and dramatic changes that involve cultural change, even in the private sector it's a seven-plus year effort from when

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you really get started. Now who's around for seven-plus years? The answer is very few other than dedicated civil servants. I would say, therefore, that civil servants will have to bear a disproportionate part of the burden to try to get us on the right path. All of you have a stake and you're likely to be around to either enjoy the benefits or suffer the consequences if things aren't changed. We need to recognize some of the fundamental truths of change management.

- Commitment and sustained leadership
- Demonstrated need for change (i.e., burning platform)
- Start at the top and with the new people (transformation takes seven-plus years)
- Process matters (e.g., employee involvement—don't fight a two-front war)
- Identifiable and measurable progress over time
- Communication, communication, communication
- Figuring out what's right versus what's popular
- Going from patience, persistence, perseverance to pain before you prevail.

Strategic Plan
In addition, we need to have a plan. The United States doesn't have a strategic plan. No administration has ever had a government-wide strategic plan. I don't know that the Defense Department has a strategic plan. We need

- Revise the current approach to developing national military strategy (e.g., order, integration)
- Take a longer range approach to program planning and budget integration (e.g., life cycles, opportunity costs)
- Employ a total force management approach to planning and execution (e.g., military, civilian, contractors)
- Revise the process for developing and communicating key changes (e.g., DoD transformation, NSPS legislative proposal)
- Reduce the number of layers, silos, and footprints
- Strengthen emphasis on horizontal and external activities (e.g., partnerships)
- Differentiate between warfighting and business systems development, implementation, and maintenance (e.g., resource control, project approval)
- Make it okay to pull the plug or reduce quantities of weapon systems and information systems projects when the facts and circumstances warrant it
- Recognize the difference between approving and informing
- Create a Chief Management Officer to drive the business transformation process
- Get the design and implementation of the NSPS right, including modernizing and integrating the DoD, Service, domain, unit, and individual performance measurement and reward systems
- Employ a more targeted and market-based approach to compensation and other key human capital strategies
- Streamline yet strengthen current commercial contracts (e.g., incentives, transparency, and accountability mechanisms)
- Provide for longer tours of duty in connection with key acquisitions and operations positions (e.g., responsibility and accountability)
- Focus on achieving real success in connection with financial management efforts (e.g., systems, controls, information, compliance, and opinions)
- Employ a more reasonable, strategic, and integrated approach to business information system efforts and financial audit initiatives.

to determine what force structures we need, what platforms we need, what footprints we need, and what technologies we need. We need to do that within the construct of current and future threats, keeping in mind the current and likely resource levels. We've not done that in the past.

The Government Accountability Office now has a strategic plan. We didn't have one until 2000, but it's made all the difference in being able to maximize value and mitigate risks within current and future resource levels. Its concepts are simple:

- Strategic plan
- Core values
- Organizational alignment
- Recruiting, development, and succession planning strategies
- Modernizing and integrating institutional, unit, and individualized performance measurement and reward systems
- Employee empowerment and effective communications.

Where there's no plan, all you can rely on is prayer. Prayer is important, but you need to have a plan too.

Organizational Alignment

You need to realign your organization to support the plan. There are way too many layers, way too many players, and way too many hardened silos in the Pentagon. For example, when I participated in Capstone several years ago, I found out that over 20 units within the Pentagon had to approve the activation and deployment of 10 people! DoD's got to de-layer and de-silo.

Think About Tomorrow

We need to move from past to future threats. We need to move from today and think about tomorrow's budgets, including the life cycle cost and the long-term affordability and sustainability of some of the things we're doing now. We need to move away from "get the money and spend the money." We need to move away from "plug-and-pray" approaches to weapon systems. What do I mean by plug and pray? Well, you determine how much money Congress is giving us. You then divide by the cost per copy and that tells you how many you can buy. So you plug into the budget how many you can buy and pray you'll get more money. The plug-and-pray approach is not strategic, it's not prudent, and it's part of the problem.

Systems—Needs vs. Wants

DoD needs to move away from the thousands of outdated and non-integrated information systems. It needs to recognize the difference between warfighting systems and business systems—those that are business-essential versus those that are wants—because we're throwing a lot of money at systems that are wants, not needs, systems that are not critical. That's money that is therefore not available to create a more positive future for the Defense Department and for the country. We need to look more from the standpoint of "we," rather than "me."

The Way Forward and Potential DoD-Related Actions

I serve as an ex-officio member of the Defense Business Board, which advises the secretary of defense on busi-

ness transformation. I've made some observations over the years, and I would encourage you to take a look at Figure 4 and consider implementing some of these potential DoD-related actions.

Better Acquisition Outcomes

The fiscal challenges confronting DoD will necessitate better acquisition outcomes. Over the last four years, DoD has been moving more toward mega-complex and integrated systems. In 2001, the top five systems in the Defense Department represented $281 billion. Now it's $521 billion. Some of the unwanted outcomes of the current acquisition process involve 12 to 15 years' development cycle times. Requirements-creep results from not nailing down requirements at the beginning. The result is cost overruns, schedule delays, and performance compromises—and building systems that we want versus what we need.

People and Tenure

Another issue I think DoD has to look at is how long do people—in this case program managers—stay in critical jobs? It's important to think about whether or not people should stay in their jobs longer. Currently, people are trying to do what they can to make sure everything goes okay in the program during their two- to three-year tour. In my view, that's not a long enough or broad enough perspective in order to do what's right overall.

Expectations

In program management, some of the challenges we've seen at GAO are that many times promises are high while cost estimates are low, which creates a double whammy. There's a huge expectation gap in that the program manager believes, "I'm going to get a lot for the taxpayer's dollar and it isn't going to cost very much." Then when variances occur, it's a triple whammy. The program manager gets less for more cost, and it takes longer. One of the reasons is failure to make sure that technology has matured to an appropriate level before moving to the next stage. If you don't have confidence in the maturity of your technology, you're just asking for problems.

Best Practices

We need to take a more disciplined approach to defining and to sticking to realistic requirements based on needs rather than wants, and based on likely current and future threats. We need to be able to make sure that we have clear and more performance-based contracting approaches. I recently read a GAO Report that noted DoD payment of 50 percent or more of potential performance bonuses to contractors who had significant delays and cost overruns. That's not performance-based.

DoD needs to use commercial best practices in design, development, and production decision making. More transparency is needed over waivers from established ac-

quisition policies and practices. DoD needs more continuity in key positions and more staffing for contractor oversight. When there's a problem in contracting, everybody looks bad. It's a shared responsibility: the government has part of the responsibility and the contractor has part of the responsibility. But when things go wrong, everybody's a loser, including the taxpayers.

Strengthen Services Acquisition

DoD also needs to strengthen services acquisition manuals and processes. A lot has been done with regard to platforms, but more needs to be done in the area of services, which is growing dramatically in the federal government in terms of contracting. It's fine to contract out certain things that aren't core to government. However, you must have an adequate number of people with the skills and knowledge to manage cost, quality, and performance. If you don't, you're headed for trouble. DoD, however, is not the only agency where services acquisition has become an area of concern; NASA, the IRS, and the Department of Energy, among others, are also struggling with the issue.

Today's acquisition workforce is stressed and strained. A significant element of the workforce is eligible for retirement. We need to do something about that—to restructure the workforce.

Leaders

We live in the greatest country on earth. We're No. 1 in many things but not everything, and we're on an imprudent and unsustainable fiscal path. We're going to have to make some dramatic and fundamental changes. We need leaders in the government—that means elected, appointed, and career civil servants—in the private sector, in the not-for-profit sector, and the media, who have three attributes:
- **Courage** to state the facts, to speak the truth, and to do the right thing even though it may not be popular and it may be counter-cultural
- **Integrity** to lead by example and practice what they preach
- **Innovation** to look for new ways to solve old problems and help others see the way forward.

We don't have enough leaders with the attributes of courage, integrity, and innovation. These qualities are going to be critical for us to make sure that we remain a superpower in the 21st century, to continue our economic growth, to improve our standard of living, and to help avoid unduly mortgaging the future of our children and our grandchildren.

Please join me in helping to address our current challenges, capitalize on our opportunitites, and create a more positive future for out country and for future generations of Americans.

We're Looking For A Few Good Authors

Got opinions to air? Interested in passing on lessons learned from your project or program? Willing to share your expertise with the acquisition community? Want to help change the way DoD does business?

You're just the person we're looking for.

Write an article (no longer than 2,500 words) and *Defense AT&L* will consider it for publication. Our readers are interested in real-life, hands-on experiences that will help them expand their knowledge and do their jobs better.

What's In It For You?

First off, seeing your name in print is quite a kick. But more than that, publishing in *Defense AT&L* can help advance your career. One of our authors has even been offered jobs on the basis of articles written for the magazine.

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The V-22 Program

Paving the Way for Navy Obsolescence Management and Mitigation

Jeanette Aley

The V-22 Obsolescence Management Team officially stood up in June 2004. The OMT's mission is to proactively manage and mitigate obsolescence problems in the V-22 weapon systems with the goal of increasing operational capabilities, reducing total ownership cost, and reducing the effects of diminishing manufacturing sources and materiel shortages (DMSMS) from conceptual design through retirement, in accordance with the following policies and guidance: DoD 4140.1-R, SECNAV Instruction 5000.2C; ASN(RD&A) Memo Jan. 27, 2005; and DASN(L) Memo May 10, 2004.

To satisfy the mission, the objective is to develop and standardize an approach to assess the short- and long-term impacts of potential obsolescence. The approach will leverage from known system configuration and component availability information and will integrate additional programmatic information such as system reliability, supply support requirements, program-level block changes, and technology roadmaps. The OMT strives to assist the V-22 program office's (PMA-275) integrated product teams (IPTs) in reducing total ownership cost as a result of obsolescence issues by influencing pending aircraft design changes and maintenance concepts, and improving integrated logistics support products, based on current mission requirements and future mission needs.

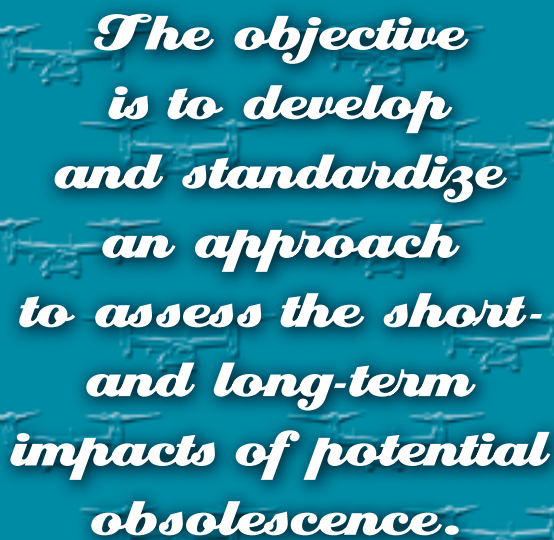### Explaining Diminishing Manufacturing Sources and Materiel Shortages

DMSMS concerns the loss or impending loss of manufacturers or suppliers of critical items and raw materials resulting from discontinuance of production. DMSMS can be caused by rapid changes in item or material technology, uneconomical production requirements, foreign-source competition, federal environment or safety requirements, and limited ability or increasing cost of items and raw materials.

A U.S. Marine Corps MV-22B Osprey executes a vertical take off from the flight deck of the amphibious assault ship *USS Wasp* (LHD 1).

U.S. Navy photo by Photographer's Mate 3rd Class Timothy Bensken.

Aley *graduated from the Naval Acquisition Logistics Intern Program in 2005 and was hired as a full-time member of PMA-275's Obsolescence Management Team. She earned a bachelor's degree from Coastal Carolina University and is working toward a master's degree from Florida Tech.*

The DoD accounts for less than 1 percent of the market share for integrated circuits, discrete, passive, and active devices used on legacy and new development systems. It is simply not cost effective for market suppliers to continue to produce those certain products needed to maintain the needs of the warfighters.

Anatomy of the Team

The V-22 OMT will collaborate with DoD entities such as Naval Air Systems Command (NAVAIR); Naval Inventory Control Point; Defense Logistics Agency; Defense Supply Center Columbus; Aging Aircraft IPT; Air Force Materiel Command (AFMC) Aging Aircraft System Program Office; the DMSMS Working Group and Government Industry Data Exchange Program (GIDEP); the Navy DMS Working Group; and the AFMC DMS program. There will be continuous communication among DoD, the Department of the Navy, the Air Force, Bell-Boeing, and the V-22 program office to take advantage of the synergy from all sources.

Obsolescence Management Process Flow

The V-22 program office's OMT is guided by an obsolescence management plan that establishes a proactive process for predicting, identifying, and controlling obsolescence impacts that affect the program from conceptual design through retirement. Processes defined within the plan provide the V-22 program with a notice of obsolescence, the degree of impact of obsolescence, recommendations for mitigation, and an assessment of how soon the problem will impact the aircraft availability. Those impacts are provided, in accordance with the V-22 change management process, as information to the IPTs charged with implementing a solution. All obsolescence notices are entered into a V-22 obsolescence verification and analysis system by means of case sheets. This allows tracking and status updates to be maintained and distributed. Case sheets are closed based on the resolution developed and approval by the appropriate IPTs. The information is then provided back to the maintenance plan to ensure currency of the data.

The first step in the V-22 obsolescence process is to assess and continuously monitor availability of the components used in the equipment for potential obsolescence risk. This is necessary so the program can identify areas where it is vulnerable to potential obsolescence problems and plan for risk mitigation. In addition to continuous monitoring and contractor input, the V-22 OMT uses discontinuance notices delivered through GIDEP and the shared data warehouse or other available sources to provide an easy-to-use interface for part number inquiry listings. These processes enable the V-22 program to take a focused, total-look approach.
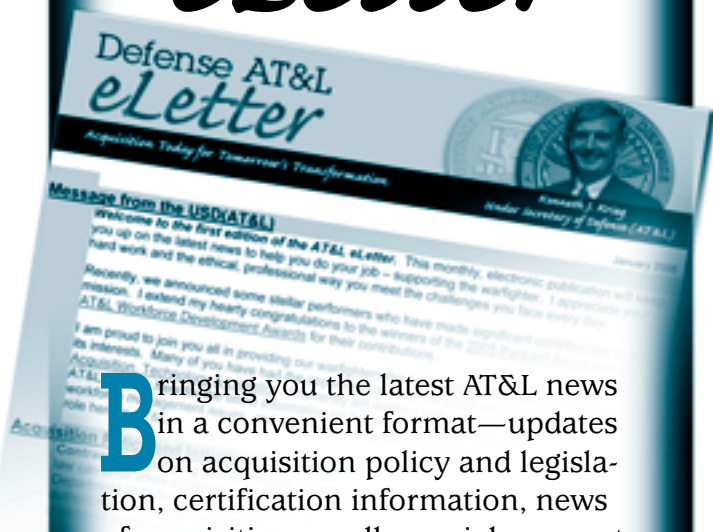
Once a component has been identified as obsolete, an obsolescence risk assessment is performed . This verifies the current availability of a part, forecasts its future availability, identifies its sourcing depth, and identifies possible solution options if it is already obsolete. Once the initial assessment is complete, the team conveys the results to the appropriate points of contact for those systems, enabling them to take action. The parts are then monitored for availability status changes, and timely notifications are sent to the appropriate points of contact as changes are identified.

An obsolescence verification and analysis case sheet is assigned and completed on each unique part in order to verify current availability, forecast future availability, indicate sourcing depth, and identify possible solution options for those parts already obsolete. The case sheet provides the basis for insight on the obsolescence impact at the next higher assembly or system level. The assessment results are intended as an aid to decision makers managing V-22 systems to help them improve affordability by minimizing costly redesigns. Information from the development, production, and/or sustainment IPTs on the solution development and the approved implementation plan/funding is required for closure of the initial obsolescence notice entered into the reporting system.

Finally, after an obsolescence impact has been resolved, its solution is fed back into the process. It is important to maintain visibility of implemented solutions to ensure system changes are also managed for obsolescence. Resolution feedback will indicate when new parts are introduced into a system to replace or redesign obsolete parts, allowing the parts to be obtained and assessed for obsolescence and then monitored. Resolution feedback can provide insight into when a system or component may

Through continuous efforts to streamline processes and become more efficient, the team has achieved an estimated cost avoidance of over $27 million for fiscal 2005 alone.

no longer require monitoring (for example, if a system is replaced through attrition and will not be maintained by the government).

Monitoring Tools

The OMT employs a variety of obsolescence monitoring/prediction tools. No one tool can perform all of the necessary functions required to properly monitor each component. Each tool serves as a check and balance system to the others and provides notices, health analysis, prediction, and projection of component life span. The OMT uses, in combination, AVCOM (Advanced Component Obsolescence Management); Total Parts Plus; QSTAR (Qinetic's Sustainment Technology Assessment Resource); TACTRAC (Transition Analysis of Component Tracking); and OMIS (Obsolescence Management Information System). In the near future, the OMT will also have access to MOCA (Mitigation of Obsolescence Cost Analysis), provided by the University of Maryland.

Results to Date

To date, the OMT has worked on over 400 obsolescence case sheets, resulting in the resolution and/or closure of over half in the past year. The OMT monitors over 50,000 components for the V-22. From fiscal year 1998 through fiscal 2004, the estimated cost avoidance for obsolescence management totaled over $39 million. Through the OMT's continuous efforts to streamline processes and become more efficient, the team has achieved an estimated cost avoidance of over $27 million for fiscal 2005 alone.

The author welcomes comments and questions. She can be contacted at jeanette.aley@navy.mil.

F-14 Program Builds Business Bridge to Poland

An Important Nod to the Future

Chuck Wagner

For a people who first heard of it while they lived under Soviet influence, this U.S. Navy fighter aircraft is a cause célèbre. Polish citizens invariably know it by name. Employees of PZL-Swidnik even refer to it with a hint of ownership—the F-14 Tomcat.

A business bridge between the U.S. Navy's F-14 program and a Polish aerospace company is in many ways a first.

PZL's construction of the transmitter bay access panel on the Tomcat's fuselage is the first time a foreign company has contributed to the aircraft's structure. It is also the first time the U.S. Navy has acquired a major aircraft part from a former East Block country.

> **"We have fully realized not only the purely military and commercial benefits but also the political advantages of bilateral cooperation … a project that brings about savings to U.S. taxpayers, creates jobs in both countries, and generates favorable publicity in Poland is a dream come true."**
>
> **—Col. Stan Prusinski**
> **Chief of the Office of Defense Cooperation**
> **American Embassy, Warsaw**

14 deputy program manager at Patuxent River Naval Air Station, Md.

As the deadline for closing down shop on the Tomcat crept closer, dwindling resources forced program planners to seek unconventional options.

They found answers in an unlikely place. Swidnik is a town of gray, communist-era apartment buildings not far from Poland's eastern border with the Ukraine. The town grew up around the PZL factory, which now employs about 3,300 workers. PZL began in 1954 building helicopters, mostly for Russia and other nations, under Soviet influence.

PZL now builds or upgrades helicopter and aircraft parts for a growing list of recognized global defense industry players: Italy's Agusta, France's Latecoere and Dassault Aviation, Eurocopter Deutschland, Airbus, and Bell.

The historic initiative is keeping the world's most recognized fighter flying safely as it embarks on its last hurrah.

Early in September, F-14 squadrons VF-213 and VF-31 of Oceana Naval Air Station, Va., landed aboard the aircraft carrier *USS Theodore Roosevelt* for what will be their last Tomcat deployment before transitioning to the Super Hornet next year. On many of these combat-proven aircraft—which average 15 years in service—wind-tossed refueling drogues have worn the panel during in-flight refueling.

"It was important that we had a plan to replace these panels before they reached the end of their service life. We had repaired them enough," said Cmdr. Dino Ferrari, F-

Czes Covington manages the Navy's effort with PZL. He is a 25-year veteran with Naval Air Systems Command (NAVAIR) at Patuxent River where he normally serves as integrated product team lead for F-14 structures and mechanical sub-systems. He sealed the deal with PZL and raised eyebrows on both sides of the Atlantic.

Evaluations of the panels received from PZL since mid-July indicate the hardware exceeds the Navy's quality standards, according to Navy engineers assigned to the Tomcat Fleet Support Team at Jacksonville, Fla. All pan-

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els are expected to be delivered by the end of February 2006.

"The panels are complete and all-encompassing. When they are delivered, they can be taken out of the box and installed. The accessories, such as the formation light and multiple fasteners, are included and pre-installed," said Covington. The panels go directly from the shop floor to the fleet, where aircraft maintainers have been able to swiftly attach the panels in their prominent position near the cockpit.

JPZL-Swidnik's Sebastian Wnuk and NAVAIR's Czes Covington inspect an incoming shipment of panel parts in the Polish factory that is finishing panels for the Navy's F-14 Tomcat.
Photograph by Chuck Wagner.

"Top Gun!" said Christian Rutkowski jerking a thumb into the air as he inspected a panel he recently painted. He is a 30-year veteran at PZL who has witnessed the country's dramatic transformation from state-controlled economy to free-market and who's seen—many times—the 1986 film *Top Gun*, which made the Tomcat into a global celebrity.

Machines on the PZL shop floor have been refitted with custom tooling derived from the original tools used by Grumman. When production on the F-14 halted in 1992, the Navy took custody of the aircraft's manufacturing specifications. This has allowed NAVAIR to work directly with PZL. Using the modified tools, PZL demonstrated that it could produce parts that meet the original equipment manufacturer's specifications.

Three American companies manufacture at least 50 percent of the panel hardware under terms of the contract. Pryer Tool and Machine Co. of Tulsa, Okla., manufactures the panel skins. Alcore of Edgewood, Md., produces its one-piece honeycomb core. Aurora Flight Science of Bridgeport, W.Va., packages the various parts into kits for shipment to Poland.

Covington first considered purchasing from a former East Block country in 1996. His team conducted a market survey that included Hungary, the Czech Republic, Slovakia,

and Poland. The decision fell on Poland, then on PZL. Contract discussions began in 2001 with approval from the Defense and State departments.

The willingness of the Navy, State, and Defense departments to work with Poland isn't solely a question of cost savings. Poland has proved a reliable U.S. ally since the end of the Cold War, and has been among the United States' staunchest allies in Iraq. U.S. officials have been eager to establish ties with Poland that both reward and solidify the relationship.

"I think the cooperation between the Navy and the factory is right in line with our mission. It is one more tie in a robust military relationship and robust commercial relationship," said James B. Bond, press attaché for the American embassy in Warsaw.

"We have fully realized not only the purely military and commercial benefits, but also the political advantages of bilateral cooperation and this U.S.-Poland ... program in particular," said Col. Stan Prusinski, chief of the Office of Defense Cooperation at the embassy. "A project that brings about savings to U.S. taxpayers, creates jobs in both countries, and generates favorable publicity in Poland is a dream come true."

Although the contract with the Navy is small compared to the company's other business ventures, PZL officials see it as an important nod to the future.

PERSIAN GULF (Nov. 16, 2005)—A plane captain assigned to the "Tomcatters" of Fighter Squadron Three One (VF-31), cleans the canopy on one of the squadron's F-14D Tomcats on the flight deck of the Nimitz-class aircraft carrier *USS Theodore Roosevelt* (CVN 71). *Roosevelt* and embarked Carrier Air Wing Eight (CVW-8) are currently under way in the Persian Gulf supporting Operation Steel Curtain, a joint U.S.-Iraqi military offensive aimed at preventing cells of Al Qaeda from entering Iraq through the Syrian border.   *U.S. Navy photograph by Photographer's Mate Airman Derek Allen.*

"It is a kind of test to see if professional cooperation is possible. We will try to prove it is a good idea for both sides to take another step. We are open to that," said Ryszard Cukierman, PZL's commercial director and vice president.

Covington also views cooperation on the Tomcat panel as a hint of future possibilities.

"The recent agreement paves the way for the eventual creation of long-term technical and economic benefits that will produce dividends for both the U.S. and Poland," said Covington.

His administrative team was recently successful in establishing an agreement between Poland's Military Institute of Armament Technology in Zielonka, PZL, and NAVAIR that would qualify a light-weight, Polish-designed armor protection package that can be integrated into a helicopter's structure. The agreement again extends to U.S.-based small businesses to help with the qualification and manufacturing program.

Curt Carey, NAVAIR'S AH-1W Class Desk, would like to see Covington's team integrating the protection into the Marine Corps Cobra helicopter. He believes their objective could be achieved quickly enough to make a differ-

ence in Iraq. The team hopes to perform gunfire testing of two materials by the end of the year, so that follow-on, full-scale qualification testing of the completed project can occur in early 2006.

"Within the next year, we could produce a low-cost, high-quality component for a U.S. military helicopter, which will provide the protection that our troops need in Iraq," said Covington.

"This success is part of our team's continuing contribution to the Navy-wide goal of delivering the right force, with the right readiness, and at the right cost," said Rear Adm. David Venlet, Program Executive Officer for Tactical Aircraft Programs. Venlet oversees the efforts of PMA 241. "You'll see much more of this as the Naval Aviation Enterprise continues to streamline development and procurement of the systems we send forward to our fleet warfighters."

The Naval Aviation Enterprise is a partnership among Naval leadership to optimize processes that maintain current readiness while investing in future readiness. The enterprise concept focuses Naval aviation on the single fleet-driven metric of producing aircraft ready for tasking at reduced cost.

FAST, INEXPENSIVE, SIMPLE, TINY — FIST

I held them off... as long... as I... could... Too many... Must... call... **FIST...**

Meet **Lisa Coleman,** a.k.a. **Extraordinary Girl.** Simple. Elegant. Mysterious.

Chip Winchester, a.k.a. **The Adirondack Kid.** Regularly rounds-up the bad guys on a shoestring budget.

Jack Morgan, a.k.a. **Cap'n Cannonball.** The high-speed, low-drag bane of bureaucratic delay.

Paul Tai, a.k.a. **Lt. Nano.** Remarkably flexible, virtually indestructible champion of nanotechnology. About 6" tall.

What happened, Colonel?

Cost overruns... schedule slips... logistics... nightmares. Please... help us!

Don't worry, Sir. The **F**ast, **I**nexpensive, **S**imple, and **T**iny team is here. **We won't let you down!**

The **LOUG!!*** I shoulda known it was them.

I think I see the source of Col. Arkell's distress. **Look!!**

*League of Unfortunate Gentlemen
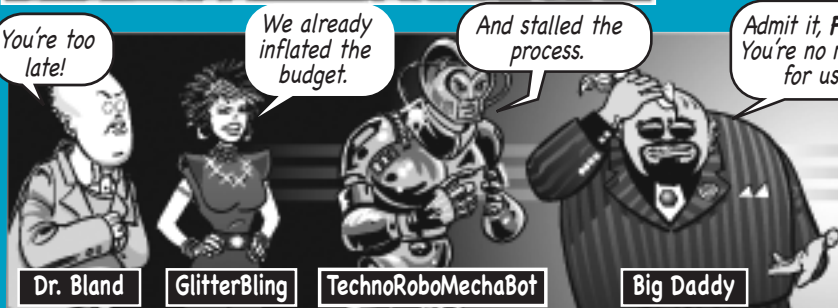
You're too late!

We already inflated the budget.

And stalled the process.

Admit it, **FIST**— You're no match for us!

Dr. Bland | **GlitterBling** | **TechnoRoboMechaBot** | **Big Daddy**

My Redundant Horde of Goldplated Mediocrity Zombies is already slowing things down.

And my 47-step plan to take over the city is flawless! We're already up to step 2, subpart 3.k.iv.17.j.

OK, Team, here's the plan. **Cannonball,** you and **the cowboy** clear out these zombie roadblocks, then go after **GlitterBling.**

Lt. Nano, cut **Big Daddy** down to size. Leave **TechnoRoboMechaBot** to me!

Creators: Dan Ward, Chris Quaid, Gabe Mounce, and **Jim Elmore**

Buying American: The Berry Amendment
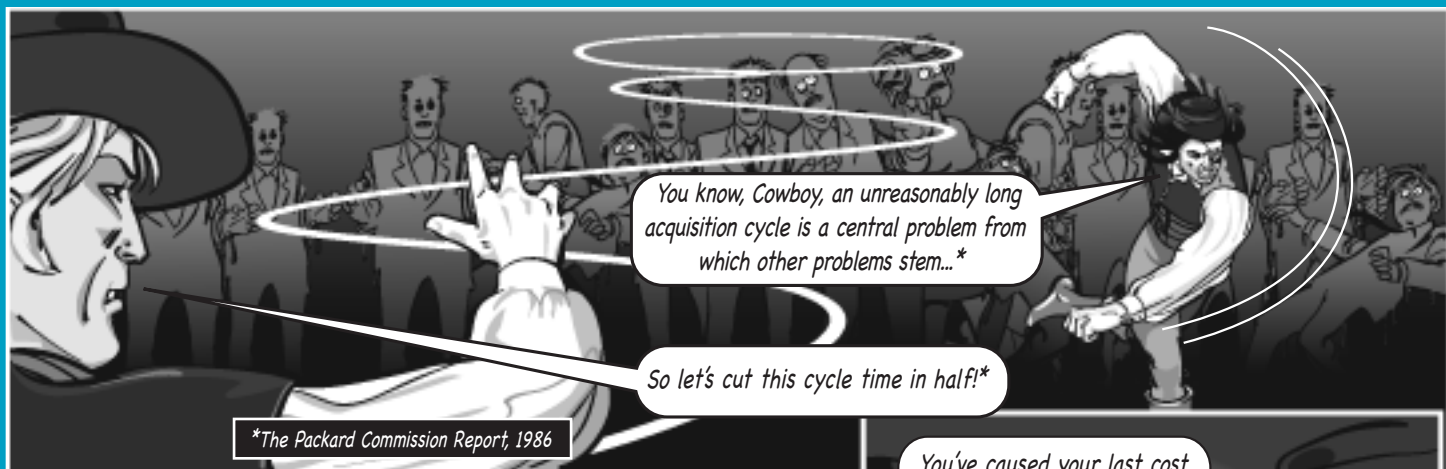
Jan Ferguson

Like most acquisition professionals, you have probably heard of the Buy American Act, signed into law in 1933 by President Herbert Hoover on his last day in office, but you may not be familiar with the Berry Amendment. Although both are concerned with purchase of American products, there are major differences between the two, as shown in the sidebar on the next page.

The Berry Amendment has been around since 1941, but most of us were not aware of it until the spring of 2001, when the media snagged another juicy story on the procurement methods of the federal government.

The story began the previous October, when the U.S. Army chief of staff announced that all active-duty, National Guard, and Reserve personnel would be issued black berets as part of their standard headgear—4.8 million berets, and they were needed by June 14, 2001, for the Army's 226th birthday. There was only one American manufacturer of berets, with a contract to produce a maximum of 138,052. It would obviously be impossible for one company to produce the required number within the eight-month delivery schedule, so the Defense Logistics Agency granted waivers to the Berry Amendment, which brought the issue to the attention of Congress and the public. According to a Congressional Research Service Report (RL31236), the first contract was awarded to an American company, and other contracts were awarded to several foreign manufacturing firms. Five of the foreign firms had production facilities in the People's Republic of China, Romania, Sri Lanka, and other low-wage countries.

> THE BERRY AMENDMENT HAS BEEN AROUND SINCE 1941, BUT MOST OF US WERE NOT AWARE OF IT UNTIL THE SPRING OF 2001, WHEN THE MEDIA SNAGGED ANOTHER JUICY STORY ON THE PROCUREMENT METHODS OF THE FEDERAL GOVERNMENT.

Compared to the other "restricted" items that DoD procures, many would argue that the berets were an insignificant purchase. However, the Army was to pay approximately $23.8 million for them, so it is understandable that the loss of such a contract to foreign sources would be unacceptable, especially to American small businesses.

As a result of this controversy, the Berry Amendment, and more specifically H.R. 1352, was enacted into law as part of the fiscal year 2002 National Defense Authorization Act; section 832 codified the Berry Amendment at 10 U.S.C. 2533a. According to the Defense Federal Acquisition Regulation (DFARS), Part 225—Foreign Acquisition, this new code requires that we "do not acquire— (a) any of the following items, either as end products or components, unless the items have been grown, reprocessed, reused, or produced in the United States:

- Food.
- Clothing.
- Tents, tarpaulins, or covers.
- Cotton and other natural fiber products.
- Woven silk or woven silk blends.
- Spun silk yarn for cartridge cloth.
- Synthetic fabric or coated synthetic fabric, including all textile fibers and yarns that are for use in such fabrics.
- Canvas products.
- Wool (whether in the form of fiber or yarn or contained in fabrics, materials, or manufactured articles).
- Any item of individual equipment (Federal Supply Class 8465) manufactured from or containing any of the fibers, yarns, fabrics, or materials listed in this paragraph (a).

(b) Specialty metals, including stainless steel flatware, unless the metals were melted in steel manufacturing facilities located within the United States.

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(c) Hand or measuring tools, unless the tools were produced in the United States."

There are, of course, exceptions listed in the DFARS, most notably, acquisitions at or below the simplified acquisition threshold ($100,000), acquisitions outside the United States in support of combat operations, or acquisitions of any of the items listed above, "if the Secretary concerned determines that items grown, reprocessed, reused, or produced in the United States cannot be acquired as and when needed in a satisfactory quality and sufficient quantity at U.S. market prices."

Buying American Raises Issues

So what's happened in the four years since all that publicity? In spite of the advantages to American business, it appears there will always be arguments against the Berry Amendment. In *Defense Daily International,* June 24, 2005, an article points out that the Berry Amendment is the reason why body armor was delayed in getting to the troops in Iraq and Afghanistan. The lack of protective equipment and up-armored Humvees has drawn substantial criticism from the public and Congress. When the demand for the critical backing material of the armor quadrupled (from April 2002 to May 2003), the sole American source was not able to keep up. Dutch State Mines, a foreign firm headquartered in The Netherlands, could supply ballistic backing; however, the Berry Amendment prevented the Pentagon from buying directly from the company. As a result, there was a three-month delay. Fortunately, Dutch State Mines built a new production facility for a comparable backing material in Greenville, N.C., thus reducing the domestic production problems.

Another recent battle concerned the use of specialty metals like titanium, which are used in aircraft and other hardware. Large companies do not track their use of specialty metals throughout the manufacturing process, and for their commercial aircraft, large companies purchase a great deal of titanium from Russia. Problems surface when the Pentagon wants to purchase military aircraft that are modified versions of commercial airplanes. Since there are normally no requirements to purchase domestic titanium for commercial aircraft, the Berry Amendment becomes an issue. If it is en-

forced, only American companies can provide titanium for items crucial to national security. However, it was reported in *Defense Daily,* July 25, 2003, that an agreement had been reached with the House Armed Services Committee and Boeing to purchase equal amounts of Russian and American titanium that will be used to produce specific military aircraft.

The Genesis of the Berry Amendment

In the 1999 book *Buy American; The Untold Story of Economic Nationalism*, author Dana Frank points out that the "Buy American" movement began with newspaper mogul William Randolph Hearst Jr., who "marshaled his enormous resources behind a Buy American campaign … which he blazoned across the headlines of his twenty-seven daily newspapers" in late 1932 and early 1933. The culmination was the Buy American Act of 1933. (An ironical aside: In spite of Hearst's zeal for "Buy American," Hearst Castle in San Simeon, Calif., whose construction began in 1919 and continued through the Great Depression, was produced with supplies from all around the world and primarily from Europe and the Mediterranean countries.)

It appears that Hearst got his "buy national" idea from the British. In November 1931, Britain had launched a massive "Buy British" campaign. Other nations followed suit. In February 1933, thousands of women and trade unionists in France demonstrated in favor of French products. Later that year, another movement was begun in Germany by pro-Hitler business leaders for "Buy German."

Because of a growing sense of isolationalism, there were many who felt that even the 1933 Buy American Act was not sufficient. The 1941 Berry Amendment, which applied only to DoD procurements, took the domestic restrictions even further than the Buy American Act. On the eve of World War II, the intent of the Berry Amendment was to ensure that American soldiers wore only American-made uniforms and ate only American food.

IG Audits Show Many Violations

In October 1998, the Office of the Inspector General published audit report No. 99-023, "Procurement of Military Clothing and Related Items by Military Organizations," which expressed concern over the number of violations of the Buy American Act and the Berry Amendment. It was reported that of the 256 contracts reviewed, 151 (59 percent) did not include the appropriate contract clause. The House Committee on Armed Services tasked the Office of the Inspector General to

BUY AMERICAN ACT	BERRY AMENDMENT
For all federal agencies	For Department of Defense only
Enacted in 1933	1941 Appropriations Act; codified 2002
Preference for purchases of domestic end products (manufactured in the United States); the cost of domestic components must exceed 50 percent of the cost of all the components of the end product	Initially ensured U.S. troops wore American-made uniforms and ate American food; later, tents, tarps and specialty metals were added

conduct a follow-up audit to evaluate compliance by military installations during fiscal years 1998 and 1999, and to evaluate actions taken after the 1998 audit to improve compliance.

Unfortunately, the audit determined that DoD contracting officers continued to violate the Buy American Act and the Berry Amendment in procurements of military clothing and related items. Of 698 contracts reviewed, 416 (60 percent) did not include the appropriate contract clause to implement the Buy American Act or the Berry Amendment. The Office of the Inspector General concluded that these procurement violations occurred primarily because the contracting officers were not familiar with, or did not understand, the Buy American Act, the Berry Amendment, and the FAR and DFARS implementing guidance. The audit recommended that the Acquisition Executives for the Army, Navy, Air Force, and U.S. Special Operations Command establish review procedures or additional training for solicitations and contract awards for clothing procurements.

Onus on Acquisition Professionals

As acquisition professionals, we need to be informed of changes to the FAR and DFARS so that we meet the requirements set forth in the Berry Amendment. In a recent DFARS case (2004-D035), a final rule amending the DFARS 225.7002-2(b), became effective July 26, 2005. It reflects the requirements of the following DoD memoranda:

- The deputy secretary of defense memorandum of May 1, 2001, provides that the USD(AT&L), and the secretaries of the military departments may make domestic nonavailability determinations under the Berry Amendment but may not re-delegate this authority. The memorandum also requires an analysis of alternatives and a certification as to why such alternatives are unacceptable.

- The USD(AT&L) memorandum of October 22, 2004, requires congressional notification (at least 10 days before the award of a contract) of any domestic non-availability determinations involving titanium or products containing titanium.

> **PROCUREMENT VIOLATIONS OCCURRED PRIMARILY BECAUSE THE CONTRACTING OFFICERS WERE NOT FAMILIAR WITH, OR DID NOT UNDERSTAND, THE BUY AMERICAN ACT, THE BERRY AMENDMENT, AND THE FAR AND DFARS IMPLEMENTING GUIDANCE.**

In an interview published in *Aviation Week & Space Technology*, September 2005, Rep. Duncan Hunter (R-Calif), chairman of the House Armed Services Committee, emphasized the importance of buying American-made products: "The best example of that was when a company in Switzerland, which makes the crystal for what is arguably our most important weapons system—the precision-munitions Joint Direct Attack Munition—refused to send it to us because the company did not agree with our foreign policy. ... I think that was an important reminder that the rule that was laid out several hundred years ago by Adam Smith in *The Wealth of Nations*, that free trade should not extend to the critical components for your nation's defense structure, remains valid today."

Courses designed to satisfy the Defense Acquisition Workforce Improvement Act requirements have given more attention to training in the Buy American Act and Berry Amendment in recent years. However, in addition to getting formal training, we also need to make an individual effort to stay informed of policy changes. When there is a question as to whether the Berry Amendment applies, procurement officers should research the DFARS, ask legal counsel, and ensure a solid fact base for decisions. The questions to ask are "Have I included the appropriate clause(s) in the solicitation and contract?"; "Am I procuring unnecessarily with non-qualifying countries?"; and "What effect does my procurement have on the American industrial base?"

Finally, the Berry Amendment follows the money, so the requirements of the Berry Amendment apply to all procurement vehicles (including non-DoD contracts, such as Federal Supply Schedules) if the contract action is funded by money appropriated or otherwise made available to DoD. While DFARS 225.7002 and DFARS Procedures Guidance and Information 225.7002 implement the Berry Amendment, expect more training to be offered in fiscal year 2006.

> The author welcomes comments and questions. She can be contacted at jan.ferguson@dau.mil.

Project Management and the Law of Unintended Consequences

Wayne Turk

You read the title and maybe wondered if the Law of Unintended Consequences is something that I made up. No, it goes back for centuries. It was described, although not named, by Adam Smith in *The Wealth of Nations* in 1776. Smith talked about an individual being "led by an invisible hand to promote an end which was no part of his intention." Rob Norton, in the *Concise Encyclopedia of Economics* article on "Unintended Consequences" defines it by saying that the "actions of people—and especially Governments—always have effects that are unanticipated."

Now you are probably wondering how that fits in with project management. The bottom line to those of us in the project management field is that any decision we make about the project or any action we take will have both intended and unintended results. Most of the time, the unintended consequences are relatively minor and have no real impact. However, they *could* have grave consequences to your project—and your career.

The Law in Action

Before we get to the specifics of the law and project management, there are many, many examples of the law in history (most of them politically charged) and in everyday life. I'll present a few examples.

One of Norton's examples is Social Security. He points out that Social Security has helped alleviate poverty among senior citizens. However, he also says that many economists argue that it has carried a cost that goes beyond the payroll taxes levied on workers and employers. Martin Feldstein, a noted economist, maintains that today's workers save less for their old age because they know they will receive Social Security checks when they retire. If Feldstein and others are correct, it means that less savings are available, less investment takes place, and the economy—and wages—grow more slowly than they would without Social Security.

Another example is the automobile. It was intended simply as transportation to replace the horse and maybe the wagon. Over the years, there have been many unintended

THERE ARE GOING TO BE UNINTENDED CONSEQUENCES FOR EVERY DECISION THAT YOU MAKE OR ACTION THAT YOU TAKE, AND SOME OF THEM ARE GOING TO BE BAD.

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and unforeseen results. Someone in the early 1900s with vision might have foreseen the need for a network of roads and maybe even service stations. But I doubt that person would have had the vision to see the number of automobiles that would eventually come, the smog and pollution, or the number of deaths from accidents.

One simpler and much more recent example is the unintended result of Securities and Exchange Commission rules and regulations after the broker and mutual fund management scandals. The SEC instituted conflict of interest rules on what brokers could tout. The SEC doesn't want brokers hyping stocks or investments in such a way as to make themselves an undeserved profit. The unintended consequence was that brokers cannot now promote stocks or investments that they personally own. There is a perceived, if not real, conflict of interest. This was certainly unintended.

Project Management: It's Results That Count

Now let's look at some unintended consequences of actions in the project management field. Strong processes and a CMM [*Capability Maturity Model*] or CMM-I rating of level 3 or 4 is a great idea. The processes promote consistency, credibility, and stability, among other things. The strong and consistent processes are in place for good reasons and have the intended good results. But they've had some negative unintended results too, such as more required resources (read cost impacts) and more time (read schedule impacts) for reviews and following the organizational processes. People didn't always take into account those unintended results, and anything that has an unplanned negative impact on cost or schedule can be deadly to a project.

Performance-based contracting is another good idea that can sometimes have significant unintended consequences if you're not careful. As you are aware, performance-based contracts use specific metrics as measurements of the level of success of the contractor. That is good. What is bad is that good metrics are hard to identify and define. In the end, some people choose metrics that are easy to track rather than those that are really meaningful. What is measured is what becomes important. If you aren't tracking or measuring the right things, you may not be moving toward success. And what is worse, you may not know it. You may pay a contractor lots of money and not end up with the product that you wanted.

What the Law Means to Managers

In looking at the impacts of the Law of Unintended Consequences, the two biggest, most visible, and most important impacts can be cost and schedule. Anything that has a negative impact on project costs or schedule is bad. We all know that. And it is very easy to make a decision—for the best of reasons—whose unintended consequences impact those areas. Other areas where negative impacts

can show up are quality, product capabilities, or personnel.

Examples abound in DoD projects, but rather than point fingers or embarrass anyone who might read this article, I'll give two examples from the Treasury Department—glaring examples of unintended consequences that led to failure: the Susan B. Anthony dollar coin and the two-dollar bill.

Both were potentially good ideas, but neither was a success. The primary reason for the failure of both was an unintended consequence: the need to change cash register drawers. Cash registers didn't have a slot for dollar coins or two-dollar bills. People weren't willing to spend the money to redesign cash registers and retailers weren't willing to buy new cash registers just to be able to use the new denominations. Yes, there were other problems, but cash registers spelled doom for both. The same kinds of things frequently can—and do—happen in DoD and throughout government.

Minimizing the Impact

So how do project managers stop or minimize unintended consequences? It takes thoughtful planning, coordination, and work. The first step is to start thinking long term rather than focusing on immediate results. When a decision has to be made, try to ascertain possible impacts two, three, or more steps into the future.

For example, you determine that you need new servers for your program. The current servers are old, slow, and don't have the capacity that you need. Don't just look at cost, speed, and memory, although those are critical. You also need to look at such things as footprint, power requirements, uninterrupted power source requirements, cooling, whether the applications that you currently have (and those coming down the road) will work on the new servers, and how the servers will fit in with the overall enterprise architecture. Otherwise, there could be real problems. Take just the simplest of these other considerations—footprint. How large are the new servers? Will they fit in the same space? The time to worry about that is not when the trucks roll up, but long before.

In planning considerations, don't fall into the trap of groupthink (according to Irving Janis, "a mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when the members' strivings for unanimity override their motivation to realistically appraise alternative courses of action"—see "Hive Mind and Group Think," *Defense AT&L* November-December 2005). If the people that you bring into the considerations all have the same perspective or are afraid to say anything if they don't, you will not see the potholes (or the tank traps) down the road. By including people with other perspectives, you can make better decisions.

Some of you are saying, "But I don't have time for that." Well, you need to take the time. Rushing into a decision can cost you and your project if you don't. Even small decisions can have a large result.

Another thing that you need is a good change management process. There are many books and articles written on change management. Most of them have some version of the same general rules—in summary:
- Do your research and have the justification down solid.
- Ensure that the desired results are achievable and the undesired results are avoidable (or minimized).
- Get the stakeholders (and there are always lots of them) on your side.
- Have a "champion"; friends in high places can really help.
- Communicate the change to all involved, including the "why."
- Have a good implementation plan.
- Monitor the change.

Risk Management is Key
Finally, make sure that you have a good risk management program in place—and use it!

A viable risk management program identifies the risks, provides the planned mitigation strategies, and tracks the risks. Risks should be assessed continuously and used for decision making in all phases of a project. Risks should be carried forward and dealt with until they are resolved, or they turn into problems and are handled as such. Too many projects "fill the squares" of risk management rather than having a program that really works.

It Comes Down to You
There are going to be unintended consequences for every decision that you make or action that you take, and some of them are going to be bad. You can't get around that. However, with good planning, coordination, and good processes, you can minimize the bad. Having good contingency plans helps, too.

The Law of Unintended Consequences is a basis of criticism of many of our projects. It is, in part anyway, the cause of many project cost overruns and schedule slips. To paraphrase Smokey Bear, "Only you can prevent unintended consequences!" It takes time, effort and the cooperation of many people, but it is certainly worth it—for you and your project.

A VIABLE RISK MANAGEMENT PROGRAM IDENTIFIES THE RISKS, PROVIDES THE PLANNED MITIGATION STRATEGIES, AND TRACKS THE RISKS.

The author welcomes comments and questions. Contact him at rwturk@aol.com.

Designing Naval Automation

The "What" Not the "How"

Anthony J. Seman III

The Naval Surface Warfare Center, Carderock Division, Ship Systems Engineering Station (NSWCCD-SSES), is located at the former Philadelphia Naval Base in Philadelphia, Pa. It is home to about 1,500 engineers, scientists, and technicians who specialize in the engineering maintenance and modernization for all hull, mechanical and electrical systems aboard Navy surface ships. There are similar activities within the Naval Sea Systems (NAVSEA) Command, which specializes in combat systems, radar and communications, and subsurface platforms.

Traditionally, naval research and development has been initiated by the Office of Naval Research (ONR) and conducted by such organizations as the Naval Research Laboratory, David Taylor Model Basin (now Carderock Division), and David Taylor Naval Machinery Research Laboratory (also now part of the Carderock Division). However, the boundaries between naval research and development (R&D) and life-cycle engineering are starting to erode, as the Navy looks to increase capability within budgetary constraints. The Navy has reorganized, streamlined, and consolidated many of its research and engineering organizations. In this climate, as an NSWCCD-SSES employee, I became a project manager for a team of NSWCCD-SSES engineers tasked to perform machinery R&D. It was an interesting process, as the team had to first struggle with, then evolve their thinking from, an embedded culture of "modifying what is" to "inventing what isn't."

Reduced Ship's Crew by Virtual Presence

The first project was Reduced Ship's Crew by Virtual Presence (RSVP), sponsored by ONR in fiscal year 1998 to develop a wireless sensor network prototype for Navy ships. Besides NSWCCD-SSES, the team included members from industry and academia. All came with their own backgrounds, mindsets, and views of the world. Each wanted to immediately apply the tool or technology with which he or she was familiar. This presented a challeng-

The team, at the beginning, just wanted to start building the system. No one realized how different our internal visions would be.

ing dynamic for a project manager who was in charge of getting them—to use a well-worn but appropriate phrase—to think out of the box.

Three Groups, Three Perspectives

The government engineers knew how ships worked today. Their approach was geared toward deckplate wrench turning. They were looking at the existing ship systems and

Seman is program manager for ship machinery RDT&E programs at the Naval Surface Warfare Center, Carderock Division in Philadelphia, Pa.

technologies, especially the systems in which they were expert. They wanted to figure out what was on a ship that they could modify to achieve the team's goal. They looked at applying a sensor network to duplicate what is done today. It wasn't immediately apparent that the technology could change the culture—that is, change how ships operate versus automating how they do things currently.

Industry team members wanted to figure out where on a ship to put (with little change as possible) their particular technologies. For a sensor network, this required sensors, radios, networking, and power components. Industry didn't have a working knowledge of the shipboard environment or ship operations.

The team members from university laboratories were interested in validating their current research topics on data acquisition and analysis. They had some level of experience in the ship environment but were not experienced in actually turning their research into a product that could be fielded.

To appropriately leverage the different strengths, the team had to be brought to the same page. The project vision, scope, and end goals had to be agreed upon and—more important—understood in the same way by all team members.

The Integrated Product Team Approach

The first step for RSVP was to adopt the integrated product team format for the team structure. IPTs are cross-functional teams that are formed for the specific purpose of delivering a product to a customer. They are composed of representatives from all appropriate functional disciplines working together to build successful programs, identify and resolve issues, and make sound and timely recommendations to facilitate decision making. IPTs operate under the following broad principles:

- Open discussions with no secrets
- Qualified, empowered team members
- Consistent, success-orientated, proactive participation
- Continuous up-the-line communications
- Reasoned disagreement
- Issues raised and resolved early.

There were many competing ideas for what RSVP was expected to do. Different parties, both inside and outside the team, had different priorities. We had to reach some consensus on exactly what the RSVP system would and would not do. RSVP required a bit more work than most naval R&D projects to establish a technical approach. A specific system, such as a new weapon, has a much more limited set of approaches than a universal sensor system. A bounding of system goals, requirements, and technical approaches had to be performed very early into the program in order to successfully build and test a system by program end.

The RSVP team decided on an approach of a COTS- (commercial off-the-shelf-) based, intra-compartment wireless sensor and local area network (LAN) information distribution and processing system. The installed system would have hundreds of wireless sensor nodes with the capability to acquire hundreds of thousands of sensor data points. The sensor clusters communicate wirelessly with redundant access points within each compartment. The access points would be hardwired into the ship's LAN and transmit information to workstations located elsewhere in the ship. Once the concept was in place, the RSVP team realized that they knew what they wanted to accomplish, but they still faced the challenge of how to achieve it.

Using Systems-Engineering Methodology

RSVP employed a systems-engineering methodology entitled "integrated product and process development." The IPPD methodology and associated software toolset provided a systems-engineering approach to design and development with an emphasis on affordability. IPPD led the RSVP team through the process of identifying customer requirements; developing and assessing technology alternatives; determining variabilities; performing risk analyses; and estimating performance, producibility, and cost. The IPPD process identified potential customers, major system goals and scope (based on customer inputs), and performance and functional requirements (through subject matter experts and customer representatives).

Generating Requirements

The next task of RSVP was to generate system requirements. The team went to James Gregory Associates (JGA), Inc., of Columbus, Ohio, to assist in this task. Through a combination of the IPPD methodology, the software-based Process Analysis Toolkit for Affordability (PATA) developed by JGA, and an expert IPPD facilitator, JGA led the RSVP team through the process of requirements generation. The RSVP team was enthusiastic about the way JGA made IPPD work for a diverse team, walking the team through the process of hashing out requirements. RSVP functional and performance requirements were developed during two week-long IPPD sessions.

Before the requirements sessions, everyone had agreed to the general concept; however, it was quickly apparent that each team member brought a different background and set of experiences to the table, which led to different expectations and interpretations of how to achieve the concept. This was an eye-opening realization as we started to go through defining requirements.

Defining Customers

The team, at the beginning, just wanted to start building the system. No one realized how different our internal visions would be. It was quite a mental adjustment when

Eighteenth International Defense Educational Arrangement (IDEA) Seminar

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To be held in
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The Eighteenth International Defense Educational Arrangement (IDEA) Seminar will be held in Madrid, Spain.

The seminar will be a theme-based format, to include an industry day, will provide for your individual participation, and will provide you information exchange and feedback.

The seminar is sponsored by IDEA, which consists of defense acquisition educational institutions in Spain, Sweden, Australia, the United States, the United Kingdom, Germany, and France.

Those eligible to attend are Defense Department/Ministry and defense industry employees from the seven sponsoring nations who are actively engaged in international defense education programs. Other nations may participate by invitation.

Invitations, confirmations, and administrative instructions will be issued after May 1, 2006.

Contact an IDEA team member for additional seminar information:

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Updated information can be found on our Web site:
<**http://www.dau.mil/international/international.aspx**>

JGA brought us all together to define who the customers were. This kicked off a large debate.
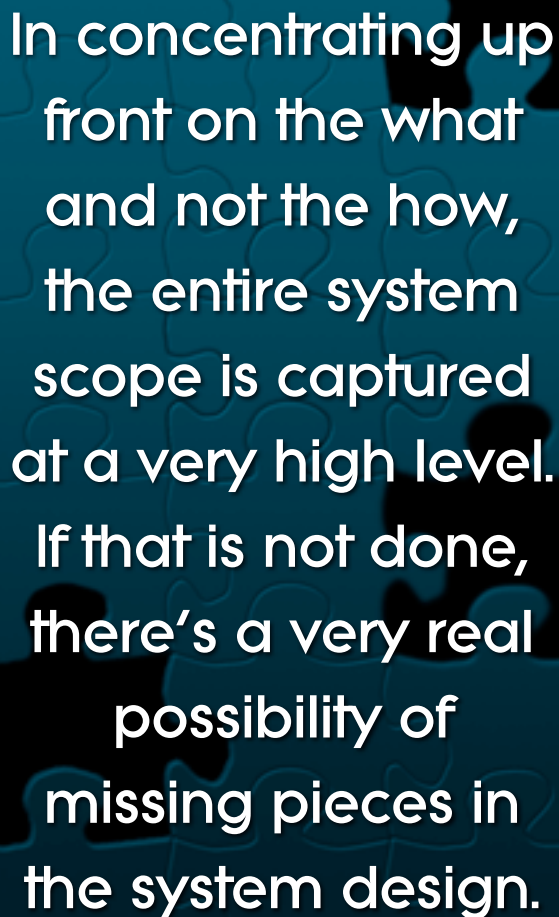
The RSVP industry team members considered the customer to be ONR, which was funding the project. ONR considered the customer to be the DD 21 (next generation destroyer, now known as DD(X)) program, which was their transition sponsor. DD 21 considered the customer to be the Blue and Gold competing industry teams, who would build the system. The Navy managers considered the customer to be NAVSEA, which would approve the system and be responsible for its installation and maintenance. The Navy engineers considered the customer to be the sailor who would be the system's end user.

Each of these customers would have different wants and needs, and each of the wants and needs would create its own requirements, which would often be conflicting. The team quickly realized that RSVP could not be all things to all people and that they would have to create a balanced design to focus on a much narrower range of customers.

The team settled on two primary customers: industry and demonstration. The industry customer was defined as the final builders, installers, and maintainers of the system. This customer would require the fully functional RSVP system that would be put on a ship. The RSVP team knew that they did not have the time or resources to build and demonstrate such a system. However, the requirements had to be specified so that we did not create a design that precluded something that eventually could be built.

The demonstration customer was defined as what we would build and demonstrate in the program as a subset of the industry customer. All other customer requirements were wrapped into these two. Requirements were grouped into categories and assigned to the customers: cost, producibility, schedule, system level; and the monitoring areas of environment, structure, machinery, and personnel.

As the categories were put into place, it became evident that each team member had come to the table with a solution in search of a problem. Everyone knew the areas to be monitored and had a favorite sensor or software algorithm to insert in the system. Team members would often make the case for a certain type of monitoring based on the fact that they wanted to use their favorite hardware or software. JGA made us realize this bias through use of the PATA tool and steered us toward thinking of the system as a whole and what the end customer really wanted. This was the first step in the IPT process of team ownership of the problem and, therefore, team ownership of the solution as well. Team members started to view the problem as a whole and keep in mind what they could do to make the others' jobs easier. Achieving this solidarity early on was key to the program's success.

> In concentrating up front on the what and not the how, the entire system scope is captured at a very high level. If that is not done, there's a very real possibility of missing pieces in the system design.

Requirements Analysis

Once customers and categories were defined, the actual requirements themselves were laid down. This sounds easy but in fact, it was the most challenging part of the process. Again, preconceptions got in the way. Often, no great depth of thought was given to monitoring a single parameter because it seemed so basic. Monitoring flooding is a good example. There was great debate on what is considered flooding. It could be any amount of liquid on the deck, an amount only above a certain threshold, or water just in certain spaces. Flooding has structural and stability impacts near the keel of the ship. Much less water has a devastating impact on electronics and machinery systems located in disparate spaces. Fluid in inappropriate places could be triggered by CBRD [*Chemical Biological Radiological Defense*] washdown, firefighting, regular maintenance, or possibly something as simple as a coffee spill.

JGA was careful not to allow us to think about how we would monitor this. One could not think in terms of hard-

ware at this stage. Existing doctrine had to be our guide, and this required research. The team had to learn what the Navy currently mandates as automated flooding detection and how it is performed. RSVP had to take this a step further and determine exiting watchstanding doctrine (what a sailor is told to watch for that the automation cannot detect and what his reaction should be). We learned that such a level of detail often didn't exist. Sensors were put aboard to provide general indications (a flooding switch tripped), and doctrine was only vaguely defined (walk around and report anything abnormal).

Each requirement had to be assigned ranges and thresholds. This process, on a single parameter, could take hours. There was often outright disagreement over some points; however, the team worked well enough together that it was kept at the level of mutually respectful differences of opinion. The end result of going through the IPPD methodology was that the team agreed to and understood the approach, and understood what was required of the other members to achieve it. It was in this forum that industry learned about ships, academia learned about prototyping and production, and the Navy learned about technical approaches that were not based in existing technology.

Putting the What Before the How

It is often the first impulse of a Navy engineering project team to extrapolate what current technology or a current system should evolve into for the future. That seems like a logical path, given the team's familiarity with current systems. However, from a systems-engineering perspective, it's not the correct approach. There are too many unknowns that could possibly invalidate the solution. From the present day to the Navy after Next, large changes are almost a certainty—the geopolitical environment, warfighting strategies, ship design/operations, and disruptive technologies, to name a few. The correct approach is to establish *what* the system needs to do and not *how* it needs to do it.

In concentrating up front on the what and not the how, the entire system scope is captured at a very high level. If that isn't done, there's a very real possibility of missing pieces in the system design, as well as experiencing incompatibilities and competing resource requirements with other integrated systems. There is also the possibility of "scope creep" as more user requirements are identified too far along in the process. All these can result in a system that is potentially far less capable and far too costly to build and maintain.

Attracting and Keeping America's Young, Bright Minds

1st Lt. Brian R. Smith, USAF

As the four-year point in my defense acquisition career approaches, a debate rages in my mind: Should I continue in the government or leave for other endeavors? The answer is not simple.

I have always believed government work is honorable and enjoyable. My colleagues are highly intelligent and patriotic. My employer, the Department of Defense, has a mission that is vital to America's national security. But right now, government acquisition organizations are challenging (in the sense of frustrating) places to work. I have little insight into what my colleagues and leadership do and limited tools to communicate my own activities. Forms, documentation, presentations, and other bureaucratic functions can consume significant parts of each work day. Organizational investments are diverse. With few common goals binding everything together, it is difficult to know what leaders consider to be high-value ideas.

Do other businesses and organizations have more to offer? After all, service to country can be given in other ways.

The private sector might offer better compensation, more responsibility, and broader opportunities for world business travel. What prevents young and talented employees in defense acquisition from leaving for Northrop Grumman, Amgen, McKinsey, Goldman Sachs, or a host of others? How are the Air Force Research Laboratory or Aeronautical Systems Center superior to Apple Computer, Intel, or GE?

Three Cs: Impediments to the Ideal Organization

Three internal challenges discourage young acquisition officers and civilians from staying in the DoD: communicating, committing, and collaborating.

First, information-age technologies have yet to improve internal and external communication. Most ideas are conveyed through one-size-fits-all bullet-point or fill-in-the-blank formats. So employees spend significant time updating PowerPoint® presentations or strategy documents instead of modifying and molding actual products and

Three internal challenges discourage young acquisition officers and civilians from staying in the DoD: communicating, committing, and collaborating.
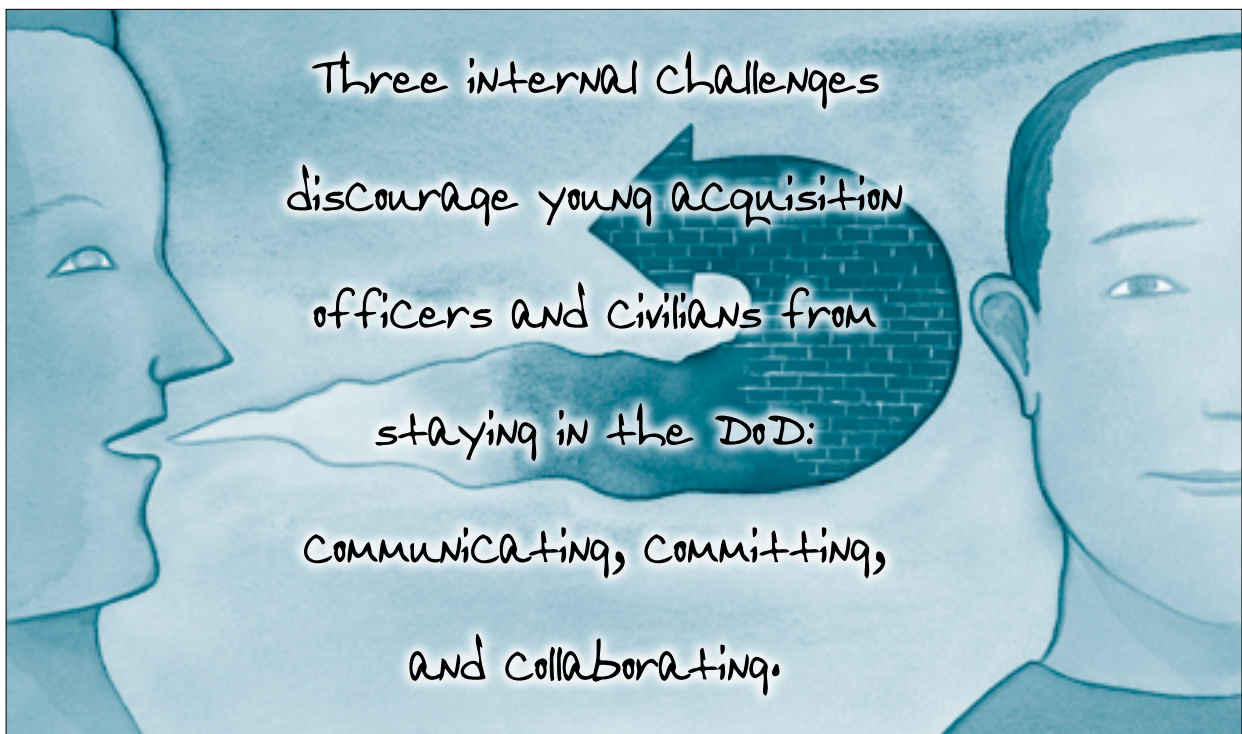
Smith is a program analyst at the Air Force Research Laboratory's Materials and Manufacturing Directorate. He has a bachelor's degree in economics from Harvard University.

ideas. Stovepiping is widespread, making it difficult to know what other people are doing. The emerging world of online networking revolutionized by AOL Instant Messenger, Wikipedia, Blogger, or Friendster is slow to gain ground. External customers face similar challenges as they try to decipher what happens in government, who does it, and when it's occurring.

Second, organizations commit resources across countless genres and ideas. With no center of gravity or focused big ideas to ground or unite an organization, neither employees nor leaders can determine which products and ideas have value to the organization. Likewise, leaders cannot easily identify high-value investments. As the jacks of all trades but the masters of none, we find it difficult to justify and defend our budgets to Congress or the chain of command.

Finally, people of different perspectives don't collaborate. Traditionally, program managers, engineers, and scientists flock with those of the same feather to solve problems. Engineers rarely team with artists or designers, and scientists hardly ever receive industry analysis and business development from economists or historians. The unidirectional problem solving often overlooks the holistic picture, resulting in ideas or products that don't meet customer needs. More collaboration would help us work smarter not harder to meet cost, schedule, and performance requirements.

These shortcomings frustrate young acquisition officers and civilians. We grew up in the information age, so Internet chatting, blogging, sharing, and advertising are second nature. We were teenagers during the strategically confusing post-Cold War period, and we long for a concise and compelling vision of the future from our defense acquisition leadership. We have experienced global travel, trade, and communication; and we thrive on multidisciplinary interactions.

Visualizing the Ideal Organization

The idealized organization is a hypothetical entity but one that would wow employees and customers if it existed. Communication would be unparalleled. Commitments would be focused and compelling. Collaboration would be natural and easy. Such an organization would consistently produce innovative ideas and products.

Creative **communication** and storytelling are vital in the ideal organization. Ideas are communicated through stories, pictures, models, and prototypes. Employees create Web sites (think Friendster), weblogs (think Blogger), or wikis (think Wikipedia) to share evolving information and learn from coworkers. [*A wiki is a Web site or other online resource where all users can add and edit content. The word derives from the Hawaiian for "quickly."*] Research, programs, patents, and funding levels are available on these sites. When employees gather in meetings, they present drawings, models, or prototypes that colleagues can circle around, pick up, or write on. Customers have clear insight into the ideas and products at every stage of development. Consumers feel good about the functionality and aesthetics of the products they receive.

The ideal organization **commits** to a focused set of big ideas. Highly talented employees and efficient processes organize around these ideas, leading to unprecedented innovation. Organizational leaders have undisputable credentials and experience creating big ideas and developing high-value products. Top-notch leadership stays at the helm of the organization for multiple years (longer than the typical three- or four-year military tour) to ingrain an innovative culture around the big ideas.

Collaboration is an essential element to success in the ideal organization. Leadership has holistic experience in technology and product development, and facilitates collaboration between introverts and extroverts. Organizational culture treats design and engineering with equal importance. Fast-paced, high-growth companies collaborate closely with the organization, uniting the best minds in the world around problems. In an October 2005 interview with *Business Week Online*, Apple Computer's Steve Jobs summed it up: "You need a product-oriented culture [to innovate], even in a technology company. Lots of companies have tons of great engineers and smart people. But ultimately, there needs to be some gravitational force that pulls it all together. Otherwise, you can get great pieces of technology all floating around the universe."

While the ideal organization is a utopian hypothesis, there *are* organizations that do contain elements of the ideal.

One Company's Story

I spent a three-month period of temporary duty in one such, a company that attracts many of the best and brightest employees in the country. Its cofounders had the experience and knowledge to conceive and commit to big ideas and to encourage spin-off innovations. They set the pace and creative culture of the organization. They constantly encourage the world-class workforce to devise new ideas. And they require tight collaboration among diverse individuals to achieve well-designed and well-engineered products.

Communication is a vital part of the culture at that company. Drawings, photographs, models, and prototypes are the center of many meetings; and discussions focus on making these renderings better. Large white boards are essential to every meeting room so that individuals can share ideas. Architectural lighting and color schemes ensure individuals can communicate in a comfortable and relaxing environment.

You're the Judge

Lonette Bryan served as a contract specialist at the General Services Administration from December 1997 to November 2002. As a full-time federal employee, she was responsible for overseeing the proposal, award, administration, modification, renewal, and termination of the Software Professionals, Inc. contract with the federal government.

Software Professionals, Inc. provided computer technology professionals to the federal government on a contract basis for five years. The contract expired in April 2003.

Bryan terminated her employment with GSA in November 2002 and began working for Software Professionals in February 2003. Between March and August 2003, Bryan, on behalf of Software Professionals, met with personnel in her old office at GSA several times, seeking to extend the term of the contract that she had worked on while at GSA. Later, she tried to persuade GSA to award Software Professionals a new contract.

You're the judge:
Does Ms. Bryan have a problem here? Did she commit a crime?

Collaboration is essential to company success. Design and engineering are treated with equal importance, and development teams work together on a daily basis. Customers are part of the development process, and new ideas sit out in the open so customers can visualize and comment on a concept at varying stages of development.

Project Mercury

Project Mercury, the American effort to put man into space between 1958 and 1962, evidenced the attributes of an ideal organization—strong communication, commitment, and collaboration. Artists and writers closely communicated with the American public to convey goals, expectations, and possible outcomes. Astronauts held press conferences to explain their training, and a public affairs specialist trained with the astronauts, serving as a bridge between the public and Project Mercury.

Project leadership committed to three big ideas: orbit a manned spacecraft around Earth; investigate human ability to function in space; recover both personnel and spacecraft safely. These ideas were challenging but seemingly attainable, and success or failure could be measured.

A highly talented team of engineers, storytellers, scientists, and operators collaborated. People like astronaut John Glenn and rocket scientist Wernher Von Braun were key to program success. It was a time of unprecedented innovation, where the integrated team pushed the state of the art to build rockets, space suits, equipment, and

capsules. The lessons learned and technologies developed are still in use today.

Three Steps to the Ideal Organization

How might leaders accelerate their organizations toward the ideal and entice talented young officers and civilians to stay in defense acquisition? I propose three steps:
- Go wireless and network.
- Spin-off entrepreneurial ventures.
- Organize core work under big, compelling ideas.

Step one introduces wireless communication and networking for all employees, regardless of travel habits. Every employee should have a laptop, PDA, or tablet PC. Workers can update weblogs, wikis, and online personal networking software from anywhere and everywhere. Oversight should be minimal (while respecting standards of discretion, ethics, and security expected in a government workplace). The .mil domain should be opened so that more individuals inside and outside the government can view and comment on DoD development efforts.

Step two consolidates entrepreneurial spin-offs. Every organization has innovative projects that grow unexpectedly out of core work and do not quite fit the organizational mission. These entrepreneurs could leave their core organization for two to three years (think DARPA meets small business startup) and be placed with other entrepreneurs in a collaborative area—that encompasses artists, engineers, technical writers, and program managers—to continue development and commercialization of the entrepreneurial endeavor.

Step three is to evaluate remaining core projects and commit to three to five compelling ideas. People and processes should be organized around the ideas. High-value products should emerge as the organization pursues them. To be sure, a small percentage of current work will fall outside the big ideas. That work should either be placed as entrepreneurial ventures in step two or transferred to an organization where it is a better fit.

Managing the complex intersection of theory and reality will be challenging. It is neither easy nor cheap to spread wireless technology. On the other hand, all employees can begin blogging to share their ideas. Step two is slightly more complicated, since there must be agreement as to what constitutes an entrepreneurial spinoff. To avoid potentially divisive debates, I recommend picking the top five or top 10 concepts through a vote by key decision makers. And step three is the most prone to failure because it requires an ideal leader who is adept, credible, and skilled enough to manage different personalities with different fears, opinions, and experiences. Like the ideal organization, this ideal leader may be merely hypothetical. Despite challenges, there is one possible way to proceed: Leadership could determine the best of the best in
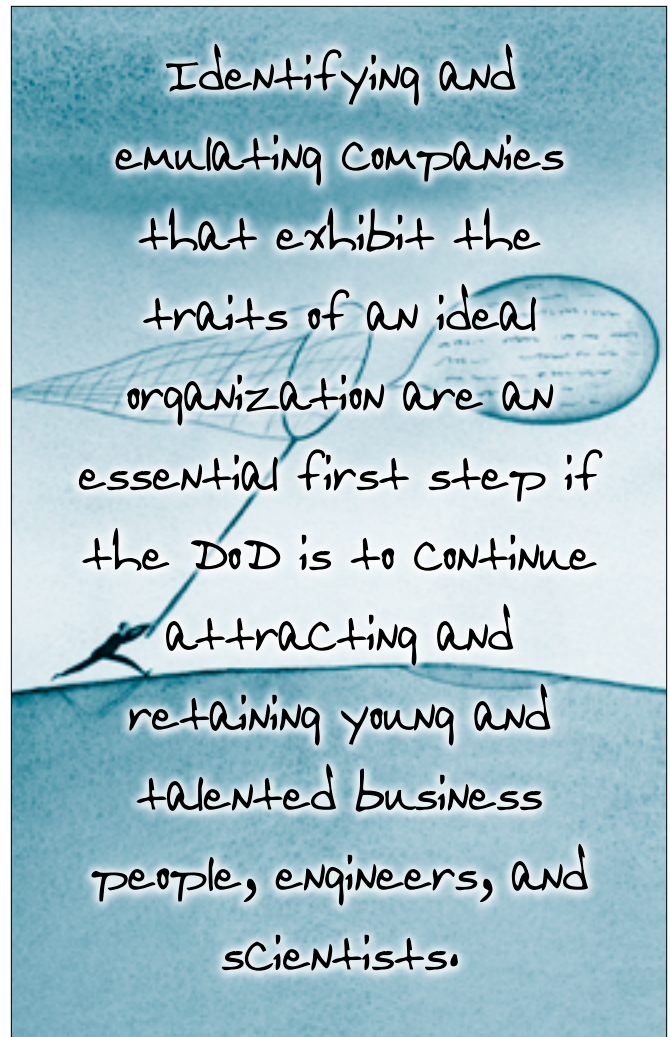
their organizations—those with unparalleled credentials and unprecedented innovation—regardless of age or experience. Those individuals, with their legitimacy, could be instrumental in crafting the big ideas, uniting diverse disciplines, and communicating the ideas.

Identify and Emulate

Currently, defense acquisition organizations have many traits that make them frustrating places to work. Communication—internal and external—doesn't effectively employ information-age technologies; there are few compelling big ideas that unify the community; and collaboration can be challenging and difficult.

Identifying and emulating companies that exhibit the traits of an ideal organization are an essential first step if the DoD is to continue attracting and retaining young and talented business people, engineers, and scientists.

Identifying and emulating companies that exhibit the traits of an ideal organization are an essential first step if the DoD is to continue attracting and retaining young and talented business people, engineers, and scientists.

DoD's Modeling and Simulation Reform in Support of Acquisition

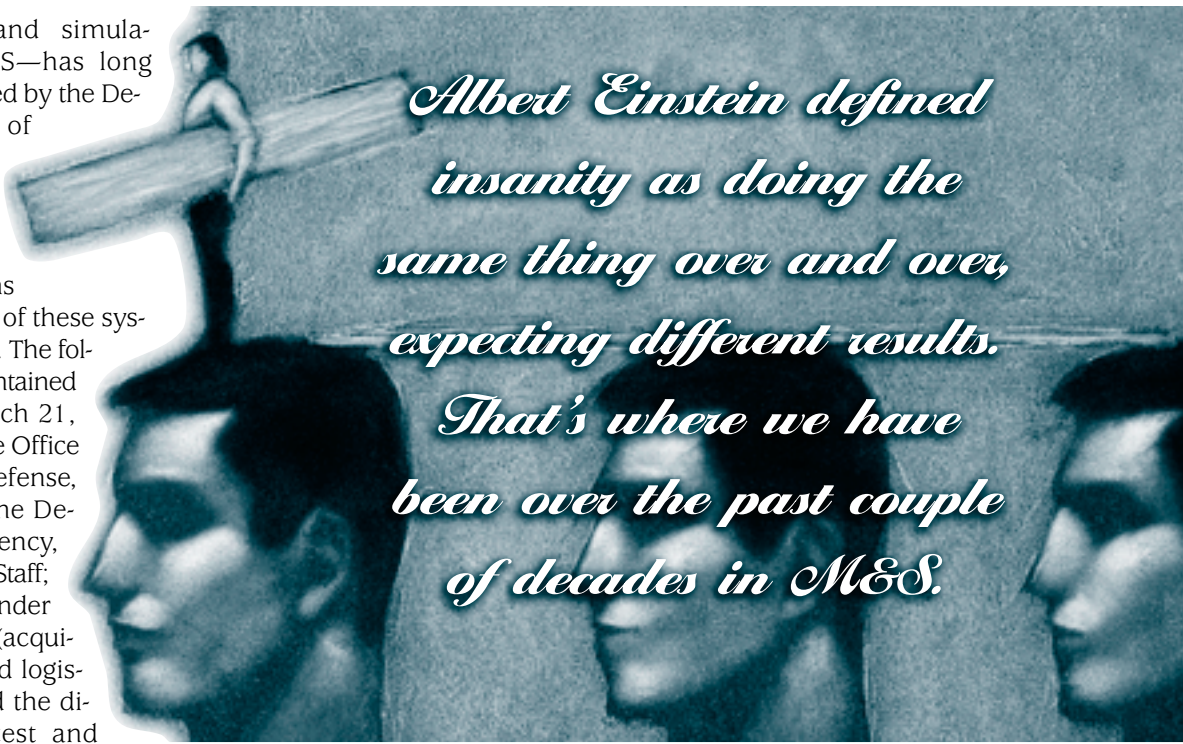## Stop Kicking the M&S Can Down the Road

James F. O'Bryon

Modeling and simulation—M&S—has long been touted by the Department of Defense as being among its primary methods for reducing time to market for defense systems and reducing the cost of these systems at the same time. The following statement is contained in a letter dated March 21, 2000, addressed to the Office of the Secretary of Defense, Service secretaries, the Defense Intelligence Agency, and the Joint Chiefs of Staff; it is cosigned by the under secretary of defense (acquisition, technology and logistics) (USD(AT&L)) and the director, operational test and evaluation, (DOT&E): "We have stressed that we must make better use of modeling and simulation (M&S) to improve the acquisition process, reduce costs, enhance T&E [test and evaluation], and shorten development times for our new systems. We are convinced that efficient use of M&S throughout the system life cycle will net great dividends in efficiencies."

Few people would argue that M&S is not an important element in the acquisition process. The question is this: Has there been progress within DoD to efficiently organize, fund, develop, promulgate, and maintain configuration control of the DoD's massive and diverse M&S activities to yield the efficiencies so clearly stated in the letter quoted above? Estimates for how much is spent annually on M&S in the DoD range from $5 billion to $30 billion, depending on how one defines M&S. Some of this is spent on M&S in support of training. The majority of

the funds, however, are spent in support of the research, development, test, and evaluation of new defense acquisition programs.

In an article in the July 2005 issue of *National Defense Magazine*, David W. Duma, the Pentagon's acting director, operational test and evaluation, wrote that "the Defense Department needs to better manage its simulation programs. I think we've kind of lost our way as a department with modeling and simulation. Multiple agencies are buying duplicate technologies, rather than coordinating efforts. We are using more modeling and simulation. But it's not focused, it's scattered. Everybody is building their own."

Not a New Problem

I couldn't agree more. So why *does* the DoD continue to lose its way using more M&S but in a "scattered" sort of

Albert Einstein defined insanity as doing the same thing over and over, expecting different results. That's where we have been over the past couple of decades in M&S.

O'Bryon *served as deputy director, operational test and evaluation in the Office of the Secretary of Defense until November 2001. He currently serves as a consultant to ORSA Corporation, Aberdeen, Md.*

way? First we have to realize that this situation is not a recent phenomenon.

A recent report entitled "Modeling and Simulation in Manufacturing and Defense Systems Acquisition: Pathways to Success," published by the Committee on Modeling and Simulation Enhancements for 21st Century Manufacturing and Acquisition, National Research Council (NRC) of the National Academy of Sciences (NAS), provides some thought-provoking observations regarding the history and progress (or lack thereof) in this vital element of DoD's roles and missions.

This project and report were approved by the governing board of the NRC, whose members are drawn from the National Academy of Sciences and other NAS bodies. The committee was composed of representatives from various DoD components and knowledgeable members from industry and academia.

The NAS/NRC committee met for approximately one year to gather information and receive briefings from experts on the subject, then members began to formulate conclusions and recommendations. In the process, the NAS/NRC panel spent significant time and resources reviewing 10 other studies dated from 1994 to 2000 that had addressed many of the same or similar issues relating to what actions DoD or an element of DoD (e.g., one of the Services) should take to get its M&S house in order. The 10 studies form only a subset of the many studies on the topic. There has been persistent and significant concern regarding the lack of organization and structure in DoD's M&S activities. As a result, the activities have been studied repeatedly, yielding numerous findings and recommendations over time. The question remains: Have these efforts resulted in significant positive change? Let's briefly review each of the 10 studies cited by the NRC.

Naval Research Advisory Committee Report (1994)
This report recommended:
- Exploiting industry developments based on design/manufacturing
- Developing connectivity-ready models, databases, and architectures
- Developing new technology for model reality checking, evaluation, and comparison
- Evolving distributed simulation-based-acquisition technology through pilot programs.

These simple but practical recommendations were made a decade ago. Ironically, however, the NAS/NRC's conclusion, in its recent report, is that "although no evidence indicates that the DoN [Department of the Navy] implemented any of the specific recommendations made, the committee believes that the work of this panel had an impact on later reports."

Findings don't remedy problems. Recommendations don't assure action. They must be acted upon.

So the recommendations from this study were not implemented but they did have "an impact on later reports."

Naval Air Systems Command Study (1995)
Fourteen conclusions and recommendations were made in this study highlighting issues relating to "business process engineering and to partnerships and sharing between government and industry, including collaborative virtual prototyping (CVP)." But there is no statement or evidence that any of these recommendations were adopted although the NAS/NRC reviewers concluded that their themes "are reflected in subsequent studies."
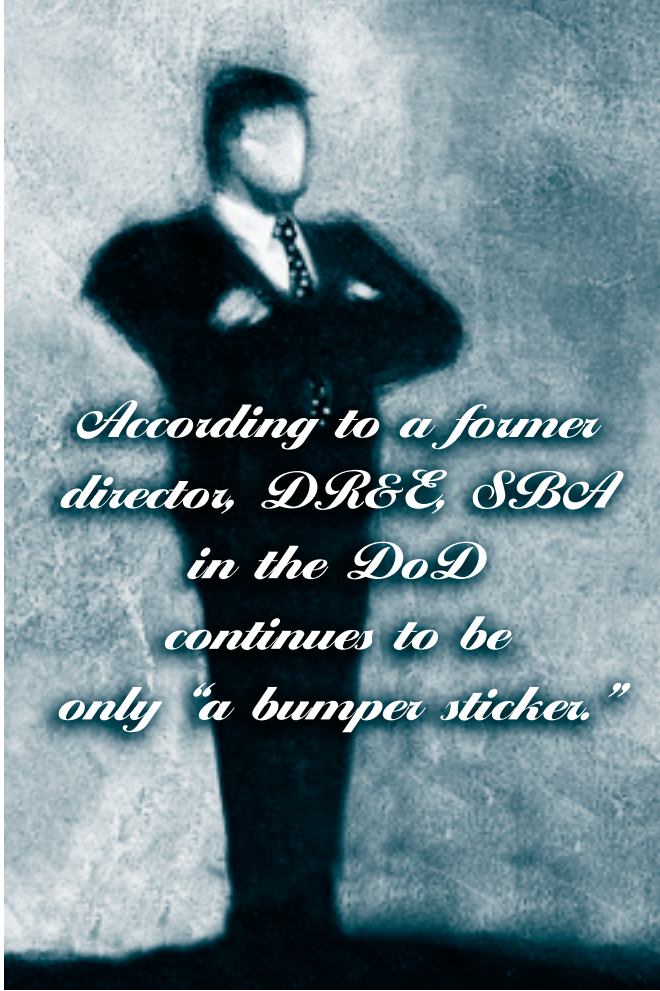
North American Technology and Industrial Base Organization Study (1996)
Intended to "assess the maturity, level of use, utility, and viability of CVP technology and its application to the industrial base," the report offered 10 recommendations, including implementation of policy to develop standardized metrics for evaluating CVP payoffs in programs and streamlining of the validation process for models; and it was the first study to recommend a central government office at the OSD level to coordinate policy and to "act as a source of information." However, according to the NAS/NRC's review of these efforts, "there was no evidence given that any of these recommendations were implemented."

American Defense Preparedness Association [ADPA, now NDIA] Study (1996)
This study made several recommendations including "providing the catalyst that will expand the growing success-

According to a former director, DR&E, SBA in the DoD continues to be only "a bumper sticker."

ful application of M&S tools beyond vertical applications within programs so that the cost savings benefits can be realized by sharing data, tools, and techniques between different acquisition programs, within simulation-based acquisition [SBA]."

Interestingly, the NAS/NRC committee concluded that "there is no evidence that the U.S. Navy Acquisition Reform Executive took specific actions in response to the recommendations of the study. However, some of the concepts originated in the study (for example simulation-based acquisition) can be found in subsequent industry and government sponsored studies." So far, we have seen lots of findings and recommendations but no evidence of progress in addressing M&S issues.

Director for Test Systems Engineering and Evaluation (DTSE&E) Study (1996)
Several useful recommendations came out of this study, including institutionalizing the use of M&S, ensuring that the community is knowledgeable about the tools available, and providing success stories of M&S to weapon system acquisition managers.

The NAS/NRC report reviewing the DTSE&E's study concluded that "in addition to providing examples of cost savings and cost avoidance that resulted from the use of M&S in acquisition, the study reinforced some of the con-

clusions and recommendations of prior studies." However, no other results were noted.

By this time, perhaps, you see a trend: lots of studies, recommendations, and dialog with little—if any—implementation of a series of strangely similar recommendations cascading from one study to the next.

National Research Council Study (1997)
Conducted for the Navy, this study again comes to several well-formulated, hard-hitting conclusions, including the need for top-level attention to M&S and the need to validate models, as well as open architecture. While the recommendations were excellent and all-too-familiar, the Academy indicates that "there were no indications that any of these recommendations were adopted."

Joint Simulation-Based Acquisition Task Force Study (1998)
This report was intended to provide a road map for what the DoD should do in the area of simulation-based acquisition. We should also note here that the NRC's assessment points out that this was only one of three simulation-based acquisition studies completed in the same time period. Again, while a dozen recommendations were made, the results were "not formally adopted and no DoD action has resulted from the report"; although some technical concepts were used in planning by one DoD program.

Defense Science Board Task Force Study (1999)
The issues, findings, and recommendations presented in this study are very reminiscent of those of the earlier-listed studies. The DSB panel's report listed several M&S shortfalls and several recommendations to address their findings. However, the NAS/NRC's review of the DSB's report and subsequent actions concluded that "there is no evidence that any progress has been made toward implementing the process and model improvements recommended by the task force."

National Research Council Study (1999)
The NRC responded to a NASA request, and its study contains similar findings to the other studies. There was a total of six findings, and 13 recommendations were made. However, the NAS/NRC's review of the report and actions states that "it is too early to assess the degree to which the recommendations of the NRC(1999a) report have been implemented by NASA."

Military Operations Research Society Report (2000)
The findings and recommendations in this report were, again, not new or surprising. They include recommendations for "making up-front investment [in M&S] as the norm to reduce life-cycle costs, making M&S strategy integral to the total acquisition plan, and providing incentives for all stakeholders to participate."

After reading the results and recommendations of all these studies, perhaps you were hoping that there would be at least some light at the end of the tunnel. Unfortunately, that is not to be.

The last sentence of the NAS/NRC's review of the last study concludes with the following hollow statement: "There is no evidence yet of substantive, corporate-level DoD action based on these proposals."

How Many More Studies are Needed?

Perhaps readers can sense my personal frustration over the preponderance and similarity of the recommendations and the paucity of actions taken with regard to DoD modeling and simulation.

I commend the National Research Council for its work and, in particular, for its most recent publication, which I have cited extensively here, putting into sharp focus the persistent and oh-so-familiar issues, findings, conclusions, and recommendations of the numerous task forces addressing DoD M&S. It also draws a very clear picture of the issues and a very blank picture of the actions taken to resolve the issues repeatedly raised.

After All's Said and Done, More Has Been Said than Done

To put it in medical terms, we've been to the doctor to diagnose DoD's M&S situation and we've even gotten a second opinion, a third, and a fourth opinion. In fact, we've obtained at least 10 opinions and they all seem to agree. Albert Einstein defined insanity as doing the same thing over and over, expecting different results. That's where we have been over the past couple of decades in M&S. These studies are unanimous in their conclusions.

However, findings don't remedy problems. Recommendations don't assure action. They must be acted upon. Dr. Johnny Foster, the former Defense Science Board chair, has stated that "the best way to make recommendations become of no effect is to simply agree with them."

It's time to act on fixing DoD's M&S problems and not continue to delay by performing yet more diagnoses. Whether one believes that the annual DoD investment in M&S is $5 billion or $30 billion, it's a huge investment that must not be squandered.

While we have examined the 10 studies cited by the NAS/NRC committee (and there are others), and we see the lack of action taken on their conclusions and recommendations, it would also be appropriate to examine the conclusions that the NAS/NRC committee made after their deliberations. The following is an excellent summation:

Many barriers remain to more widespread use of M&S in defense systems acquisition. These barriers include inade-

quate allocation of resources, lack of information for acquisition program managers, lack of an integrated software systems engineering process, issues related to the protection of intellectual property rights, poor information dissemination on SBA to the broader M&S community, and insufficient education and training for the workforce.

Why Fundamental M&S Change Hasn't Happened

One would think that after this much attention to the topic, at least *some* measurable progress would be evident. The answer may lie in the fact that those who drew the conclusions were not the ones responsible for implementing the recommendations. The answer may also lie in the fact that little to no incentive was given to implement them, nor were any penalties prescribed if they were not implemented. Furthermore, it may simply be a case of no new money and hence, no action.

At the core of the problem, I believe, is the fact that the bulk of the funds available to support M&S in DoD acquisition are controlled by program and project managers. Since their longevity in these positions is typically one acquisition milestone, investment in meaningful M&S is not high on the priority list; and hence, the DoD continues to muddle through its M&S investment process, with few incentives and virtually no penalties for those involved to be more M&S-efficient.

Is There a Solution?

Even before the publication of the NAS/NRC report described herein, I put forth to the DoD community some workable proposals in "Meet "MASTER"—Modeling & Simulation Test & Evaluation Reform: Energizing the M&S Support Structure" (*PM*, March-April 1999). These may provide a starting point. In any case, we *must* begin to address this persistent and growing problem.

The only way I can see to fulfill the vision of real SBA is to get at the root causes of the problem. According to a former director, defense research and engineering, SBA in the DoD continues to be only "a bumper sticker."

Until the DoD either radically changes the way its major acquisition programs are incentivized, managed, and funded, or else takes an alternative approach to unify the funding, development, verification, validation, accreditation, application, maintenance, and configuration control of these models, the DoD will continue to waste literally billions of dollars per year on M&S in support of DoD acquisition—and paying for more studies.

The author welcomes comments and questions. He can be contacted at jamesobryon@obryon group.com.
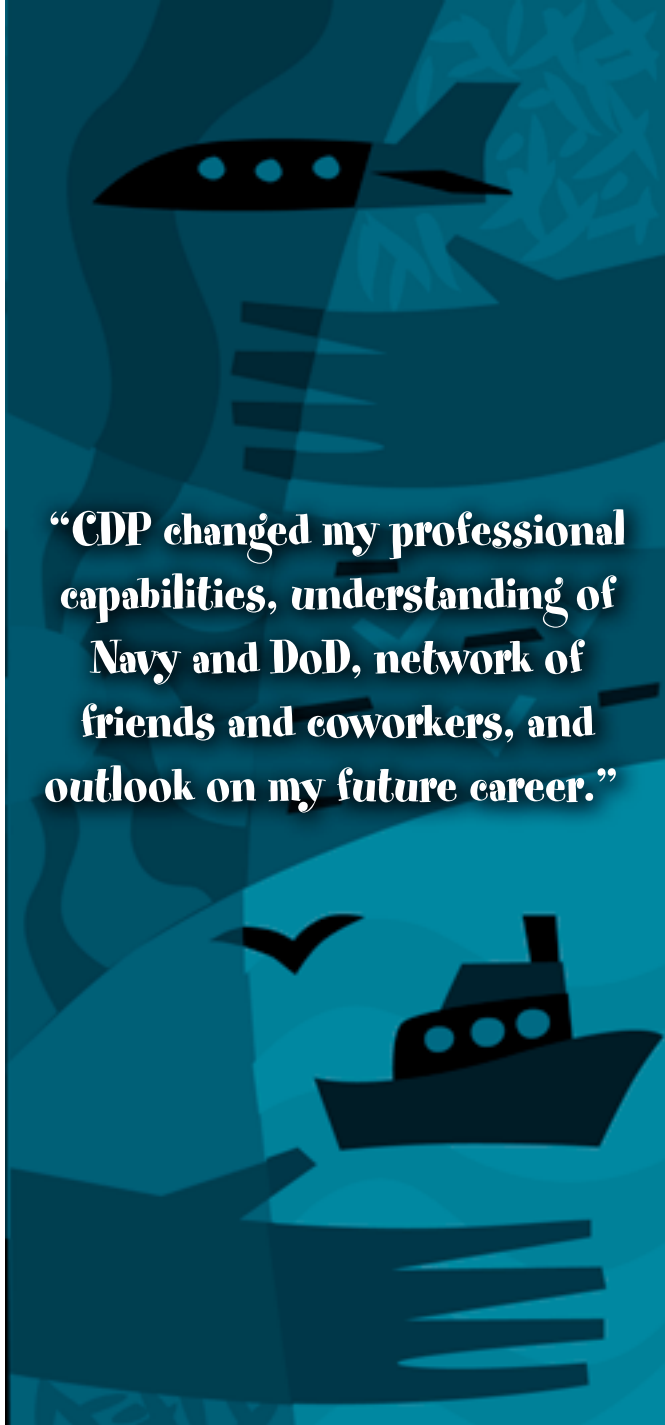
Equipping NAVSEA's Future Leaders

The Commander's Development Program

Matthew Tropiano Jr.

The Commander's Development Program (CDP), the Naval Sea Systems Command's premier full-time leadership development program, was established in May 1980 as part of NAVSEA's overall career-development strategy. It is a full-time, 28-month program involving a series of high-level rotational assignments, executive workshops, graduate-level educational experiences, and special tasks designed to expand participants' managerial and leadership abilities.

The goal of the CDP is to improve command mission success by investing in a select group of high-potential professionals who will feed into leadership positions throughout the command. The CDP is also an opportunity for NAVSEA employees to accelerate their careers and significantly increase their abilities to contribute to NAVSEA's mission and to contribute to their own self-development. The CDP provides the mentoring, training, education, executive experiences, and credentials necessary to be competitive for leadership positions throughout NAVSEA. By doing this, NAVSEA develops a pool of proven professionals who are ready to assume high-visibility leadership positions.

Upon completion of the program, graduates seek critical positions within the command and associated field activities. Some of the positions held by CDP graduates within the Department of the Navy and NAVSEA are deputy program executive officer for aircraft carriers; NAVSEA chief information officer; program manager, Submarine Depot Availability Program Office; deputy program executive officer, information technology for enterprise solutions; director of technical operations, Naval Surface Warfare Center; and technical director, Fleet Technical Support Center, Atlantic. Nine percent of the CDP graduate population is promoted each year. Approximately 200 employees have graduated from the program since its inception, and today those employees hold leadership positions throughout the Navy. In fact, 17 CDP graduates (9 percent) have achieved Senior Executive Service status, leading some to consider the Commander's Development Program an executive-level accelerated advancement program.

"CDP changed my professional capabilities, understanding of Navy and DoD, network of friends and coworkers, and outlook on my future career."

Tropiano is program manager for Naval Sea Systems Command's acquisition intern programs and Dashboard. He holds a bachelor's degree in electrical engineering, a master's in religious studies, and a master's in business administration.

Competitive Selection Process

The highly competitive selection factors for the CDP are knowledge of the applicant's professional field as it relates to the NAVSEA mission and the five executive core qualifications of the Senior Executive Service, described later. Before entering the program, applicants must have a superior knowledge and performance record within their job specialties. The CDP Board of Governors selects seven to 10 participants. Only applicants who, in the considered judgment of the Board of Governors, have outstanding potential for success in senior leadership positions will be accepted into the program.

NAVSEA's senior civilian and military leaders play an active role in the program. The NAVSEA executive director chairs the CDP Board of Governors, which is composed of NAVSEA Senior Executive Service members (SES-ers). The Board approves program policies that govern all aspects of CDP. Command SES-ers serve as mentors to CDP participants (CDP-ers) in the classic mentor-protégé relationship that has been identified as one of the most important elements of successful careers. The chosen mentor provides guidance to the participant in assessing abilities and career goals and in planning the development program. The mentor also assists the participant in negotiating with various organizations for high-level rotational assignments. Military leaders provide program guidance and rotational assignments to participants.

Indoctrination

CDP participants begin the program with an intensive eight-week indoctrination period—Indoc—during which time, they meet with the senior leadership of NAVSEA in a series of small-group meetings. These meetings allow for a candid interaction with senior officials and expand the participants' understanding of the scope and depth of NAVSEA's mission, and current issues and problems. During Indoc, participants select their mentors from the SES community.

Indoc includes a variety of executive workshops on leadership skills, covering topics such as briefing techniques and communication skills, human relations, negotiation techniques, managing transition, and performance development.

During Indoc, each participant completes an individual leadership development plan—ILDP—for the balance of the program. The ILDP is crafted on the basis of the individual's and the command's needs, as identified by the participant, the program director, and the participant's mentor. The ILDP consists of high-level rotational assignments and formal courses that provide both developmental experiences and the knowledge and skills necessary to prepare the participant for leadership positions. The assignments and training will supplement the participant's experience and prepare him or her for clearly articulated career goals.

Because key civilian leadership positions are critical to long-term command effectiveness and are both managerially and technically demanding, the mentor and program director identify the critical competencies each participant needs to develop, then they ensure that each participant achieves those competencies before completing the program. In this manner, CDP graduates are better prepared to fill key positions. Since the CDP is designed to prepare individuals for leadership positions and to improve their competitiveness for Senior Executive Service positions, the SES Executive Core Qualifications are an integral part of this program:

Leading Change—The ability to develop and implement an organizational vision that integrates key national and program goals, priorities, values, and other factors and includes striving to improve customer service and program performance; to create a work environment that encourages creative thinking; and to maintain focus, intensity, and persistence, even under adversity.

Leading People—The ability to design and implement strategies that maximize employee potential and foster high ethical standards in meeting the organization's vision, mission, and goals.

Results Driven—Stress accountability and continuous improvement including the ability to make timely and effective decisions and produce results through strategic planning and the implementation and evaluation of programs and policies.

Business Acumen—The ability to acquire and administer financial, material, and information resources. Business acumen also involves the ability to accomplish the organization's mission, to support program policy objectives, and to promote strategic vision.

Building Coalitions/Communication—The ability to explain, advocate, and express facts and ideas in a convincing manner, and negotiate with individuals and groups internally and externally.

These competencies, when matched against the participant's qualifications and capabilities, will serve to structure the participant's ILDP. A recent survey of program graduates showed that "learning new skills" had a significant impact on their experience and influenced their applying to the CDP program. Ninety-one percent of the CDP-ers who are now SES-ers said learning new skills was at least very important. Sixty-seven percent of new CDP-ers indicated that learning new skills was the number one reason for their applying. All those currently in the program indicated that learning new skills was very impor-

> "CDP was a life-changing event for me and much of my career success is directly linked to things I learned in CDP."

tant. Eighty-nine percent of graduates indicated that learning new skills was *very* important.

One person surveyed commented, "The opportunities are not limited. You actually can spend two years developing yourself, your skills, and your vision for the future. The program works on all of these—not just one." According to another student, "The skills I learned during Indoc and through rotations, as well as learning to think bigger (the big picture), have been key in my ability to do the job."

Rotational Assignments

The participants select rotational assignments based on their backgrounds and career goals. Each participant selects a series of short-term (three- to six-month) rotational assignments designed to give the knowledge and experience necessary to understand and execute the responsibilities and operations of NAVSEA and the Department of the Navy. The CDP participant, rotational-assignment supervisor, mentor, and program director sign an agreement describing the developmental objectives and performance requirements of the assignment. An assignment can offer an intensive learning experience about the organization and its processes and is often outside the participant's career specialty. Other assignments give participants supervisory experience as they fill vacant supervisory positions. A tour of duty at a field activity may broaden the perspective of those who have been based in headquarters during their careers. Many rotational-assignment opportunities are also available in offices outside the command—the Office of the Assistant Secretary

of the Navy (Research, Development and Acquisition), the Office of the Chief of Naval Operations, the Office of the Secretary of Defense, the Fleet, and on Capitol Hill, for example.

Occasionally the commander, vice commander, or executive director will have a requirement to complete a short-term, high-priority project or to fill an important vacancy on an emergency basis while a recruiting action is under way. If such an assignment could be beneficial to both the command and the participant, a CDP participant may be asked to complete this "emerging requirement." Upon completion of the rotational assignment, the CDP-er evaluates the rotational assignment, and the supervisor evaluates the CDP participant's performance.

In the survey, 91 percent of the SES-ers indicated that rotational assignments were a very important or the most important component of the program, and 94 percent of all graduates indicated that rotational assignments were very important. One graduate expressed the desire for longer rotations. "The CDP rotational assignments provided about 15 years of exposure in three years," said another graduate, while yet another commented, "Without a doubt, I would not be in this position had I not been in CDP. Being able to rotate through various offices and demonstrate my skills to others inside and outside of NAVSEA brought several long-term professional opportunities."

Career Counseling

CDP-ers receive intense career counseling during the initial Indoc and throughout the 28-month program. During Indoc, participants conduct a self-assessment against the OPM Executive Core Qualifications as a means of identifying opportunities for improvement. The self-assessment is the primary means by which the participants, program director, and mentors develop the ILDP. In addition, participants are subjected to a number of standard instruments (such as the Myers-Briggs Type Indicator) for various executive-level workshops, and a counselor or coach works with each participant in understanding what the results of those instruments mean relative to leadership styles. Throughout the program, participants are assessed for their (1) leadership, (2) performance during rotational assignments, and (3) difficulty of their development plans. The CDP-ers continue their relationships with their mentors long after program graduation.

Mentoring

All CDP-ers are required to have one official and two additional mentors who are members of the Senior Executive Service. Official mentors are responsible for approving ILDPs, approving rotational-assignment agreements, approving end-of-year bonuses, and providing counseling throughout the program. Official mentors are also responsible for participating in the successful placement of

CDP-ers upon graduation and maintaining the mentor-protégé relationship after the participant completes the program. Furthermore, SES-ers who are selected as primary mentors automatically become members of the CDP Board of Governors. The additional mentors provide the CDP-ers with additional support.

Formal Training
Concurrent with rotational job assignments, participants complete independent study, university courses, government-sponsored courses, seminars, and specially developed courses tailored to augment their work experiences.

Leadership Development
Leadership development is the ultimate purpose of the Commander's Development Program. In addition to executing their ILDPs, participants are expected to get involved in extracurricular activities that support the command and/or the community, such as volunteering for various task forces, special projects, professional societies, or community programs.

Collateral Duty
Special task groups may be formed to analyze command problems and propose solutions on a wide variety of important subjects. CDP participants play a major role as team leaders or team members in these challenging assignments.

Program Completion
To determine eligibility for graduation, the primary mentor and program director evaluate CDP-ers using such criteria as fulfilling the objectives identified in the ILDP, including Acquisition Workforce Certification at Level III. Upon receiving the mentor's and program director's recommendations, the executive director will make the final decision on a participant's readiness to graduate. CDP participants may be eligible for early graduation only with the approval of the executive director. The CDP-er, mentor, and program director then work collaboratively on the successful placement of the CDP-er.

Networking
One hundred percent of those currently in the program, 64 percent of CDP-ers who are SES-ers, and 77 percent of graduates indicated that networking was very important.

"Once you have completed the CDP program, you are no longer an individual within the NAVSEA enterprise, you are part of a tightly woven network of highly placed and highly regarded professionals," said one participant.

Equipping NAVSEA's Future Leaders
One hundred percent of the SES-ers and those currently in the program would recommend the program to others, as would 97 percent of all graduates. One SES-er re-

"Unequivocally, the best career move I ever made."

ported that he is now working at the Department of Homeland Security and trying to implement a similar program. Several respondents cited the CDP program as the most important step in their careers. "It was the most important undertaking of my career. It changed my professional capabilities, understanding of Navy and DoD, network of friends and coworkers, and outlook on my future career," said one CDP-er. "Unequivocally, the best career move I ever made," commented another.

Several CDP-ers asserted that the CDP had directed and defined their career, and one graduate said CDP had been "immeasurably" career-defining, going on to say, "CDP was a life-changing event for me and much of my career success is directly linked to things I learned in CDP and people I met throughout CDP." Another said, "The education alone has been worth every moment of my time. I earned two promotions within four years of completing the program."

Through interviews and statistical analyses, it is clear that CDP is accomplishing its mission and playing a vital role in developing leaders for the benefit of NAVSEA and beyond—the Office of the Assistant Secretary of the Navy, Office of the Chief of Naval Operations, the Office of the Secretary of Defense, the Marine Corps, and elsewhere.

A New Systems Engineering Model and an Old, Familiar Friend

Mary Redshaw

The arrival of the 21st century and the aftermath of 9/11 brought with them many fundamental changes that impact defense acquisition programs. Our systems are becoming increasingly complex and costly. Developing and sustaining complex systems while achieving cost-wise readiness demands excellence in systems engineering. Because we require a disciplined development process as never before, a great deal of attention and energy is focused on efforts to revitalize systems engineering within the Department of Defense. Does "revitalization" mean that we have to learn a whole new way of doing business?

The 16 systems engineering processes described in the *Defense Acquisition Guidebook* (*DAG*) do not—at first glance—appear "familiar" to those who learned the legacy systems engineering process model taught by the Defense Acquisition University in recent years. This article models those 16 processes in a way that presents our familiar friend—the legacy model—in a powerful new construct.

Revitalizing Systems Engineering

The under secretary of defense (acquisition, technology and logistics) issued a policy memorandum in February 2004 that stressed the importance of systems engineering in defense acquisition programs and the need to "drive good systems engineering practices back into the way we do business." That statement highlights the fact that the DoD is revitalizing its internal practices in a discipline in which it has excelled in the past.

The term "systems engineering" was first coined at Bell Telephone Laboratories in the early 1940s, and DoD began practicing the concept later that decade with the initial development of missiles and missile-defense systems. Systems engineering started gaining momentum following World War II. Because of its role in acquiring and developing large-scale, complex systems, DoD led the way in codifying the fledgling discipline by developing and releasing the first systems engineering standard in 1969. The principles in that baseline military standard (and later revisions) are still valid. Efforts aimed at revitalizing sys-

The legacy model is elegant in its simplicity—simplicity that makes it easy to remember while conveying some of the complexities of the systems engineering problem-solving methodology.

tems engineering should retain those aspects of the discipline that have proved successful in developing complex systems in the past—perhaps in a framework that has evolved over time—and avoid throwing out the baby with the bath water.

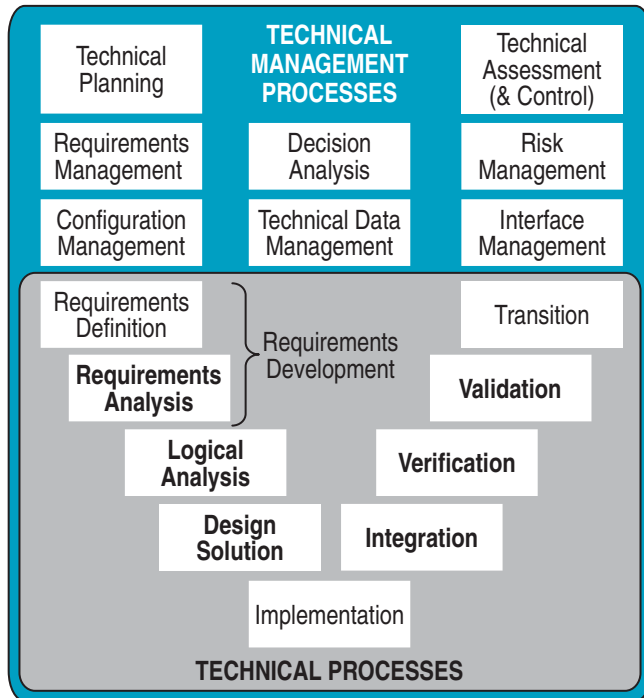## The Demise—and Resurrection—of a Standard

In 1969 the U.S. Air Force developed the baseline military standard, Systems Engineering Management, MIL STD 499 (USAF). The standard was approved by DoD and was considered for possible conversion to a fully coordinated document mandatory for use by all DoD agencies. Revision A was published in 1974, again primarily for use by the Air Force. Later acquisition reform in the early 1990s emphasized use of commercial standards when available and appropriate—as the precursor of performance-based acquisition initiatives.

In 1994, then-Defense Secretary William Perry issued a policy memorandum barring the use of military specifications and standards on DoD acquisition programs unless a waiver was granted by the milestone decision au-

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FIGURE 1. Comprehensive Systems Engineering Process Model

the intent that it be made available for use by all departments and agencies of the DoD. Invoking it as a compliance standard on DoD contracts became a possibility five days later with issuance of a USD(AT&L) policy memorandum on March 29, 2005 that allows program managers the flexibility to require conformance to military standards and specifications where appropriate—without having to seek a waiver from the milestone decision authority.

The Legacy DoD Systems Engineering Model

Although it was never approved for DoD use, current members of the acquisition community have been exposed to concepts and artifacts from the coordination draft of MIL STD 499B, including the legacy systems engineering process model used by DAU in its courses today. I was first exposed to that model when I attended the 20-week program management course at the Defense Systems Management College in 1992; and I have been teaching the same model for a little over two years as an instructor at DAU. To me, the legacy model is an old, familiar friend. Ironically, this old friend appears in the newly released coordination draft of MIL STD 499C.

The legacy model is elegant in its simplicity—simplicity that makes it easy to remember while conveying some of the complexities of the systems engineering problem-solving methodology—such as its iterative and recursive nature. It contains three primary sequential process steps: requirements analysis, functional analysis and allocation, and synthesis. The model also depicts a block, interfacing with all three process steps, entitled "Systems Analysis and Control," which is a compilation of management activities and tools (e.g., for decision analysis, assessment, and control). At a high level, the model captures the sequential order of the primary steps, their interface with the management activities throughout their application, and recursive loops between process pairs that ensure all requirements are completely defined, traced, and verified. One major disadvantage of the model is that the verification loop does not adequately convey the role of test planning, testing, and evaluation of results as integral parts of the development process.

Perhaps to overcome the deficiency noted above, variations of V-shaped models have lately become prevalent within industry systems-engineering frameworks, including the first international consensus systems engineering standard (ISO/IEC-15288, released in 2002). The new *DAG* describes 16 "generic systems engineering processes." In lieu of the legacy model, the *DAG* portrays a series of five sets of phase-based activities arranged in V-shaped patterns, as does the Integrated Defense Acquisition, Technology, and Logistics Life Cycle Management Framework (the Wall Chart). Unfortunately, neither the *DAG* nor the Wall Chart provides a single generic model for instructional purposes. As part of my work in devel-

thority. Revision B of the DoD systems engineering standard was intended for use on all DoD programs and was circulated as a coordination draft to a wide audience (including industry partners) in 1992. Because of the ongoing reform initiatives leading to the Perry Memorandum, MIL STD 499B was never approved for DoD release, and MIL STD 499A (USAF) was subsequently cancelled without replacement in 1995.

Because no commercial systems engineering standards existed in 1994, the coordination draft of MIL STD 499B was embraced by U.S. industry standards bodies as the basis for two standards (IEEE-1220 and EIA-632), both of which represented fairly minor modifications of the military standard. Since that time, DoD acquisition organizations have used industry standards as the framework for developing their own systems engineering guides and handbooks. The practice of systems engineering within DoD became increasingly fragmented by proliferating standards, models, and process improvement frameworks.

However, the pendulum is starting to swing in the opposite direction—in both industry and government circles. Over the past few years, commercial systems and software engineering standards have begun slowly converging toward a single harmonized international standard. More recently, the U.S. Air Force released a new draft (Revision C) of the military standard, intended to support acquisitions by the Space Missile Systems Center within the Air Force Space Command. The coordination draft of MIL STD 499C (USAF) was released on March 24, 2005, with

Yes, Ms. Bryan has a problem, and she did commit a crime.

On April 7, 2004, Bryan pleaded guilty to one count of violating 18 U.S.C. § 207(a)(1), one of the post-government service employment communication restrictions. The Eastern District of Virginia handled the prosecution.

This law prohibits former federal personnel from representing someone else before the federal government on particular matters involving specific parties that he or she worked on personally and substantially while in the federal government with the intent to influence the government's decision.

In her official capacity, Bryan worked on the contract between the government and Software Professionals and its terms, including termination. She didn't commit a crime when she went to work for Software Professionals. Only when she represented Software Professionals before the government to extend the term of the existing contract did she violate 18 U.S.C. 207(a)(1) because it was a matter she had originally negotiated as a federal employee.

On July 23, 2004, Bryan was sentenced to two years' supervised probation, substance abuse treatment, and a special assessment.

took some literary license with respect to a couple of the *DAG* processes, as shown in Figure 1 and described below:

- The parenthetical "& Control" is added to the technical assessment process, indicating the need for corrective action if assessment of project status or outcomes indicates deviation from planning baselines.
- The requirements development process is decomposed into two subordinate processes to capture the overlap of the acquisition/systems-engineering domain with the Joint Capabilities Integration and Development System (JCIDS).
- The technical management processes in the CSEP model are equivalent to the systems analysis and control portion of the legacy model. Note that in the CSEP model the technical processes are always implemented within the encompassing framework of the technical management processes. Collectively the technical management processes form the executive—or control—logic that steers system development to meet project or phase objectives.

The technical processes are depicted in a V-shaped pattern. Again for ease of reference—and as a description of its function and power—I call this V-shaped model of the technical processes the V-9 Engine (Figure 2). The blue blocks in the V-9 Engine capture the legacy model's three primary sequential process steps on the left-hand side, plus associated steps inferred or adapted from the legacy model and the ISO/IEC 15288 model, respectively, on the right-hand side.

Powerful Visualization with the V-9 Engine

The V-9 Engine provides a powerful visualization of key process interfaces. The concept of interfaces between different levels in the system hierarchy is particularly important in the system-of-systems or net-centric context. It is important that the systems engineer responsible for developing a system or subordinate element view it from the outside, or from the perspective of the larger architecture in which it is intended to operate.

The V-9 Engine illustrates domains of responsibility within the technical processes. The subdivision of the requirements development process into two subordinates portrays interfaces of a project team with the JCIDS process, with project or engineering managers at a higher level in the system hierarchy, or with the acquiring organization where an acquirer-supplier agreement exists. The results of the first subordinate process—requirements definition—governs the development (or manufacturing) effort and establishes the "handshake" regarding project scope and deliverables between the project decision authority and the development team. At the end of a phase of development, review of products and test results during the transition process allows the decision authority to determine if all requirements and agreements have been met;

oping a new systems engineering course consistent with the direction taken by DoD—and largely to help myself understand and explain that new direction—I developed a new model. This model captures the 16 processes listed in the *DAG*, provides a generic representation of the series of phase-based activities and can be correlated to the legacy DoD systems engineering model. For ease of reference in discussion, I call it the Comprehensive Systems Engineering Process (CSEP) model.

Proposed: A New Model for DoD Systems Engineering

In Chapter 4 ("Systems Engineering"), the *DAG* introduces eight technical management processes and eight technical processes. In modeling those 16 processes—and in developing a generic representation of the phase-based series of V-shaped activities—I adapted a model contained in ISO/IEC 15288. To reconcile with the legacy model, I

FIGURE 2. **V-9 Process Interactions**
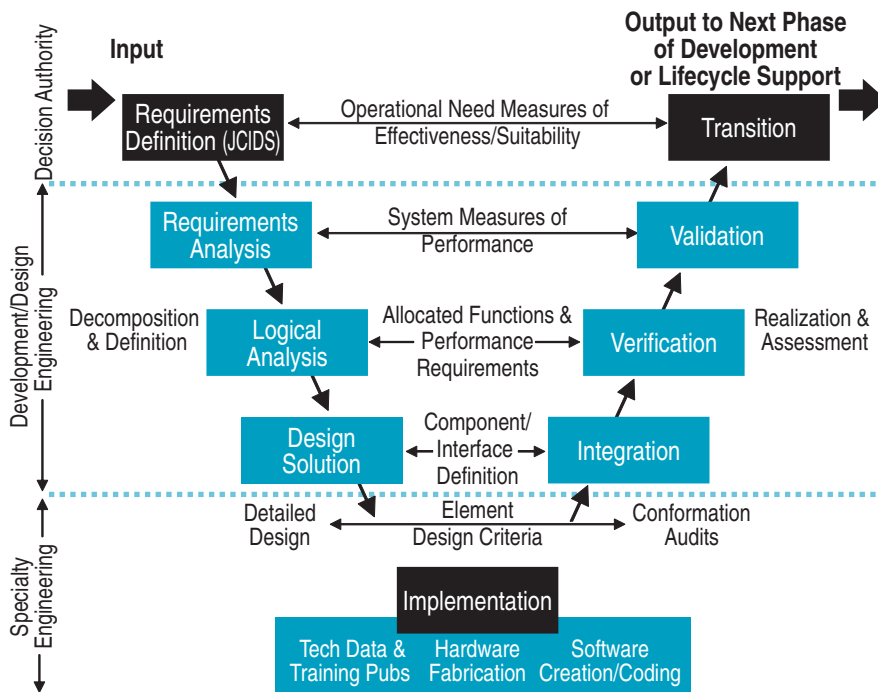
if further system development is warranted; and if the system is ready to proceed to the next work effort, phase, or acquisition life-cycle function (e.g., production, deployment, operation).

Another key process interface occurs at the point where the design is implemented. This is the level at which the systems engineer and component design specialist(s) identify and resolve technical issues and select workable solutions that will not jeopardize the overall system design, capabilities, performance, or suitability. The level of the system hierarchy at which the design is handed over to specialists for implementation is project-dependent. However, in all cases, the systems engineer monitors the implementation of system elements as they affect overall design, performance, cost, and schedule.

While retaining the same process steps and attributes of the legacy model, the CSEP model suggests additional valuable information.

Finally, the V-9 Engine highlights some of the important characteristics of the technical processes, including the sequential order of process application (or completion). In the top-down application on the left-hand side, measurable criteria are documented at each level of system decomposition and definition—forming the basis for assessment during bottom-up system realization on the right-hand side. Requirements are traced throughout the iterative and recursive application of this problem-solving "engine" to ensure complete and balanced coverage of input and derived requirements to the system and lower elements in the system hierarchy. In the CSEP model, the V-9 is the "engine in systems engineering."

Comparing Legacy and CSEP

Comparing the legacy model to the CSEP model—and its constituent V-9 Engine—is analogous to comparing a view of a piece of electronics equipment with the face plate installed versus removed. Viewing the equipment with the face plate removed reveals the connections and interfaces inside. Seeing those connections increases the understanding of how the electronics equipment functions—or in this case—how the overall process is intended to work.

While retaining the same process steps and attributes of the legacy model, the CSEP model suggests additional valuable information regarding the encompassing and executive nature of the technical management processes, relationships among the technical processes, domains of responsibility, the importance of test planning during system definition, and the integration of test and evaluation activities as part of system development. Understanding the correlation of the legacy model to the CSEP model is valuable also. A practitioner familiar with the legacy model—or someone seeing it for the first time in the coordination draft of MIL-STD-499C—can readily understand the models presented in this article. Since the proposed CSEP model was adapted from one in an international consensus standard, a practitioner using either the source or derived model will quickly also recognize the correlation of the processes in the other.

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COTS to the Rescue

Office of Naval Research Tech Solutions Pilot

Master Chief Petty Officer James Blessé, USN ▪ *Devin Markovits*
Gary Markovits ▪ *Lee Mastroianni*

In a previous article [*Defense AT&L*, September-October 2005], we explored a method of leveraging the U.S. patent database to bridge the small worlds of technology and accelerate research and development (R&D). Sometimes, however, the need is so urgent that one must find commercial off-the-shelf (COTS) solutions and press them into service as rapidly as possible.

Finding mature solutions to today's problems is reactionary, however, and only half the answer. With the pace and complexity of modern warfare, we also need to put in place the knowledge tools and networks that will create an "innovation grid" to keep us one step ahead of tomorrow's urgent needs.

The Office of Naval Research Tech Solutions knows this all too well because the organization is in the business of finding innovative solutions to urgent needs every day. Tech Solutions has developed an online system for accepting, cataloging, and resolving problems from across the Navy and Marine Corps. Input comes from the highest levels of command right down to the sailor on the deck plates.

When a problem is received, the Tech Solutions team springs into action. The first task is to ensure that science and technology (S&T) is the most efficient manner of addressing the need. Before proceeding, the team conducts a comprehensive examination for potential sources of

> **With the pace and complexity of modern warfare, we need to put in place the knowledge tools and networks that will create an "innovation grid" to keep us one step ahead of tomorrow's urgent needs.**

COTS, government off-the-shelf, current R&D, S&T programs, and planned programs. Tech Solutions next exercises its network of laboratories, university-associated research centers, and other organizations to solicit proposals on how the problem might be quickly solved. Then it selects and funds the best candidate.

Pilot Addresses Four Challenges

Over the years, Tech Solutions has built a significant network of scientists and engineers and has become adept at using search tools to ferret out potential solutions. Always seeking to improve performance, Tech Solutions de-

*Blessé, a U.S. Navy master chief petty officer, runs the Office of Naval Research Tech Solutions branch. He oversees the rapid development of technology from inputs submitted by sailors and marines in the fleet. **Devin Markovits** is vice president of patent analysis for Innovation Business Partners and led the development of Akribis Search™, the natural language processing patent search engine used in IP Driven Innovation. **Gary Markovits**, founder and CEO of Innovation Business Partners, developed the concepts of IP Driven Innovation™ to help research and development and engineering organizations increase their capacity for innovation. **Mastroianni**, at the time of the pilot, was the technical manager for the Tech Solutions program.*

signed a pilot to test methods that would use the patent database to find mature solutions, extend its network, and build a knowledge base in key areas—such as armor—where, it seems, new challenges arise every day.

The pilot tested the Innovation Business Partners Akribis Search™ technology and IP Driven Innovation™ process, focusing on four challenges:
- identifying mature ship-spotter technology for the EA-6B
- finding mature solutions for up-armoring buses
- identifying the key players in machine-based language translation, (i.e. mapping the innovation grid)
- testing the value of creating an ongoing armor knowledgebase.

The Tech Solutions team received IP Driven Innovation training and began the pilot by using the four-part needs/problem definition process to clearly define their critical challenges. The output of the needs/problems definition became input to the Akribis Search™ engine for mining the U.S. patent database.

Finding Mature Solutions

The EA-6B ship-spotter challenge required that the solution be hand-held and work from within the cockpit without modifying the plane's airframe in any manner. Mining the patent database, we were able to rapidly identify nine companies with technology that could provide potential solutions. Searching their Web sites, we further ascertained that two of the companies already sold products that were flight-certified by the U.S. Air Force. Thus in a very short time, Tech Solutions had at least two potential solutions.

The second example involved the up-armoring of vehicles. Within 24 hours of receiving an urgent request for up-armoring solutions, the tools and techniques used in the pilot identified key work done by the Army, as well as six companies with potential solutions.

These two examples demonstrate how the patent database can be turned into a knowledgebase of mature solutions and facilitate quick focusing on key players.

The machine language translation challenge was different again. The objective was twofold: to benchmark the IBP tools and techniques against funding decisions that had already been made in this area; and to identify "hubs of innovation" in this domain. The first count quickly identified the company in which Tech Solutions had previously invested. On the second count, the solution space map identified several other companies as the dominant hubs. The analysis also identified two industries that Tech Solutions had not been working with—call centers and medical transcription—both potentially interesting sources of new technology in the future.

The final Tech Solutions challenge assessed the idea of creating an ongoing Office of Naval Research armor knowledgebase that covered more basic science than that in the up-armoring example. The pilot version was formatted as a spreadsheet that could be sorted on a number of key parameters for analysis purposes. The results were reviewed by the Tech Solutions team, which concluded that such an ongoing database could be of significant value as a tool to continually survey the cutting-edge science as it pertains to armor technology research.

In many ways, the "immediate innovation" thrust represented by Tech Solutions' challenges is very similar to what is happening in industry. Major corporations are investigating alternatives to classic, long-term R&D. Firms are considering strategies that identify solutions from around the world and integrating them quickly. Where possible, they are seeking and finding off-the-shelf solutions. For example, last year Procter & Gamble obtained 40 percent of its new product innovations from outside its own labs.

Joining the Dots

Every year, the nations of the Organisation for Economic Co-operation and Development spends over half a trillion dollars on R&D. More than 50 percent is spent outside the United States. Over the last decade, the trillions of dollars spent on R&D have created a worldwide innovation grid—a network of organizations, scientists, and engineers that are inventing solutions to the world's problems. The IBP process allows for the grid to be visualized and tailored for specific topics.

In network theory, there is a concept called "degrees of separation." In any community of people, the degree of separation is a number that measures how many people you would have to go through on average to reach any other person in the community. The lower the degree of separation for a community, the more "connected" it is. The larger the degree of separation, the less one person on one side of the community knows about another person on the other side. [*The concept of degrees of separation was examined in "Knock, Knock, Knocking on Newton's Door,"* Defense AT&L*, March-April 2005.*]

Some people argue that with the Internet and the online publication of many scientific and technical journals, the worldwide R&D community should be highly connected. From a technical perspective this might be true—you are only a few short Google™ searches away from finding out what a scientist on the other side of the globe is doing. However, the problem is often *too much* information and a lot of *irrelevant* information.

There is a second conundrum. Even if a community is highly connected, the amount of intelligence or value that individuals can extract from that community depends

Rapidly putting needed technology in the hands of our warfighters is paramount, and there is plenty of room for everyone—from small businesses to huge corporations—to participate in the future of military innovation.

upon the tools and processes they have at their disposal to activate and exercise the network.

Small degrees of separation do not ensure high degrees of penetration; a precision search tool and a process to exercise the worldwide R&D and S&T network are required. Using the tools and techniques employed in this pilot, we demonstrated that it is indeed possible to leverage the money spent on R&D worldwide to find rapid solutions to urgent problems and build a bigger and better innovation grid to respond in the future.

What the Future Holds

Rapidly putting needed technology in the hands of our warfighters is paramount, and there is plenty of room for everyone—from small businesses to huge corporations—to participate in the future of military innovation. Urgent needs are most likely to be met by pulling several COTS technologies together and modifying and testing them to satisfy the requirement. But we must keep our eyes on the goals: to create technologies that are significant today and to forge a path to technologies yet to be discovered.

The authors welcome comments and questions, which should be referred to gary@innovationbp.com.

Does 1 + 1 Really = 2?

Can You Book-keep Success?

Col. Christopher R. Paparone, USA (Ret) ▪ James A. Crupi

> "War is bounded by the referential extremes of the prebattle roll call and the post-battle body count, and is constituted within by the mundane and innumerable calculations (days counted, supplies counted, miles counted). … Indeed, counting is a speech act so pervasive during war time that it approaches an ideology; it is thus not simply a formal or typological question (What shall I count? How shall I count?) but also a fundamentally ethical one (Who counts? Do I count?)."
>
> James Dawes
> *The Language of War*

Our opening quotation comes from the chapter "Counting on the Battlefield: Literature and Philosophy after the Civil War" in which Dawes traces the roots of our military bookkeeping culture to 1860s literature.

While senior leaders espouse the theory that military transformation is about culture change, the irony is that their unquestioned "theory in use" is principally to cre-ate a culturally comfortable bookkeeping design (or in popular jargon, "road map" or "dashboard metrics") to execute transformation. A quest for a metric is really a quest to find a cause-and-effect relationship and assess the impact of a particular project or activity—the hallmark of early industrial age scientific management. While some impacts are often numeric in nature (improve sales by 20 percent) they can also be qualitative (improve workforce commitment levels).

The bookkeeping-speak phrase "measure of effectiveness" (or MOE) has an invisible meaning—"measure of (cause and) effectiveness"—that clearly indicates a cultural quest for prediction. The DoD has created expensive "laboratories" for "experiments," giving bookkeeping techniques emphasis in an even larger search for cause-and-effect relationships and better MOE. Metrics continue to represent a socio-psychological penchant for determinism in the military, and the tacit acceptance of bookkeeping as an organizational ideology creates a range of challenges that military leaders need to understand and appreciate.

The Good

Some of the benefits of metrics are:
- Providing defined goals and scopes for projects, allowing for more concrete design, planning, and implementation. In effect, managers are saying, "This is what we plan to do, and this is the benefit it will have."
- Providing very specific success criteria for projects.
- Allowing outcomes to be assessed at the end of implementation. This is especially useful to account to stakeholders.
- Having the psychological value of reducing anxiety in the face of uncertainty by providing the assumption of control and predictability.

… And the Bad

Some shortfalls are:
- Unconsciously adopting a paralysis-by-analysis mentality at the expense of a learn-by-doing mentality (for example: We have to maneuver against the enemy in order to learn about him).

Paparone recently retired from the Army. He received his doctorate in public administration from the Pennsylvania State University and is presently a professor of leadership studies at Old Dominion University. Crupi is president and founder of Strategic Leadership Solutions, Inc., Plano, Texas. He served in the U.S. Army as a company commander and instructor at the Army Ranger School. Crupi received his doctorate in university administration from the University of Florida.

- Confusing quantitative knowledge (the superficial nature of "spreadsheet readability") with the quality of wisdom (intimate, in-depth understanding). As Henry Mintzberg says in his 1994 book *The Rise and Fall of Strategic Management*, "The essence of wisdom ... lies not in what is known but rather in the manner in which that knowledge is held and in how that knowledge is put to use." Or in the ancient Chinese wisdom of Tao Te Ching, "He who is truly great does not upon the surface dwell, but on what lies beneath."
- Making linear assumptions of causality vice appreciating the complex, interactive, dynamic patterns of causality. Werner Heisenberg, the father of quantum mechanics, profoundly said, "What we observe is not nature itself, but nature exposed to our method of questioning." Indeed, numeric appraisals in quantum physics have revealed that light is a wave or a particle depending on how you measure it.
- Jumping to implementation of solutions without taking time to understand an ever-changing problem as a continuous process.
- Assuming that by breaking down the system into measurable segments or by deconstructing the processes within, the sum of the parts will equal a measure of the whole (for instance, not recognizing that military "operations" is larger than the categories we have created to measure it).
- Failing to consider other process options because one has selected measures for the process in use.
- Reinforcing one's cultural penchant for low-cost and high-speed measuring versus appreciating the richness and quality of observing and experiencing the actual activities in progress (in other words, failing to recognize that the *numbers* don't prescribe what to do next, *people* do).

Need for Perspective

The military's love affair with metrics and bookkeeping has—perhaps dangerously—become the military culture's pretense for knowledge, whose purpose is to limit the cost of human imperfection. Military bookkeeping methods are seen as equivalent to the scientific methods found in the natural sciences, and senior leaders hardly recognize that the underpinnings of the study of conflict belong more to the philosophy of the humanities. The current process is devoid of moral reasoning and is based on an economic logic of cost-benefit and resulting risk analysis. And senior leaders often treat the resulting information as having been generated by full analysis and balanced assumptions rather than by a bounded examination of alternatives and by biased assumptions.
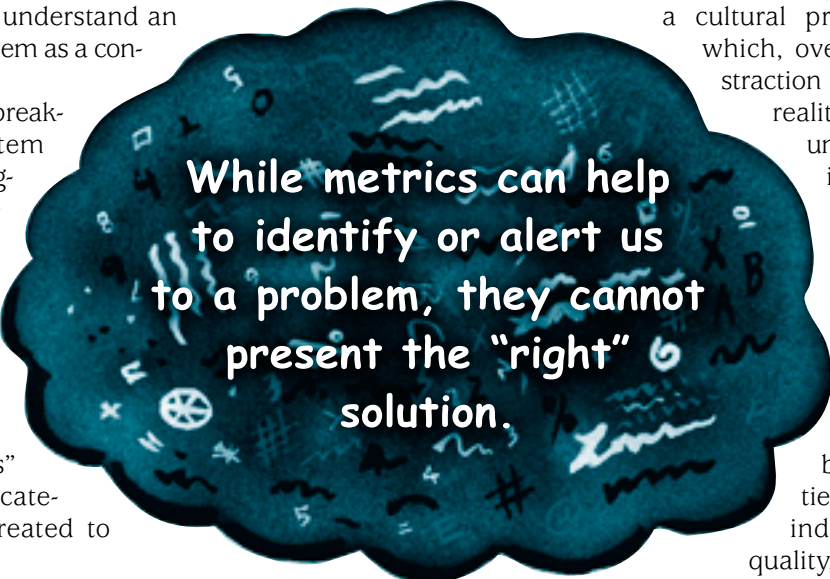
The underlying logic of the natural sciences is quite different from the humanities. If physical science produces a theory that the sun is the center of the universe, the objective truth is still unchanged (and today we have substantive evidence that the sun is not). For the military culture to self-discover that bookkeeping is a form of mythology is unlikely. This is because its unquestioned belief in bookkeeping has produced information processes that have become culturally reified. (Reification is a cultural programming process, which, over time, treats an abstraction or mental construct as reality.) In human conflict, uncertainty and ambiguity are the underpinnings of theory, not the fictitious consciousness of certainty and clarity that a bookkeeping mentality promotes. On the other hand, military art, better seen as a branch of the humanities, proposes an almost indescribable aesthetic quality, loosely portrayed by words such as "impressionistic," "talented," "creative," "amusing," "imaginative," "improvised," and "impromptu."

> While metrics can help to identify or alert us to a problem, they cannot present the "right" solution.

In 1963, James R. Schlesinger, in his book *Quantitative Analysis and National Security, World Politics*, reduced the Pentagon problem of managing the military into two parts: "(a) how much resources to divert to defense, and (b) how to use such resources." Schlesinger (appointed secretary of defense in the early 1970s) painted a world of predictability through detailed analysis and signified how operations research was now to be fully embraced by the defense community.

Despite the U.S. debacle in Vietnam—a conflict overseen by Robert F. McNamara's Pentagon whiz kids with the bookkeeping artifacts of

> The frequently unseen assumptions associated with a metrics-oriented culture imply that the numbers both define and portray the complexity of the problem. That analogy is like trying to interpret what is happening in a football game by watching only the scoreboard.

The frequently unseen assumptions associated with a metrics-oriented culture imply that the numbers both define and portray the complexity of the problem. That analogy is like trying to interpret what is happening in a football game by watching only the scoreboard. Even though numbers are historical data and constitute retrospective information, the cultural assumption is that trends will continue. But we all know there are too many intervening and interactive variables to make forecasting just on the basis of metrics reliable.
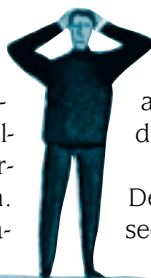
body counts and "stop light" charts representing probabilities of Vietcong strongholds—defense leaders emerged with an even greater penchant for metric-style thinking. For example, the planning, programming, and budgeting system evolved and spawned offspring like the Joint Capabilities Integration and Development System. The result is that the military's metric-dominated culture has embraced bookkeeping techniques to measure the "success" of effects-based operations.

In a recent two-hour, high-level meeting in the Pentagon, senior leaders debated what logistics performance metrics should be. While metrics are important to help set standards to assure timely deliveries to the customer, how those metrics (once determined) would help drive transformation of the military logistics system and culture is questionable because focusing so much on metrics drivers inhibits out-of-the-box thinking about innovative and "disruptive" ways of resupplying the joint force. One has to wonder how spending so much time on metrics (as we have now done for almost 50 years since the advent of the Uniform Military Material Movement and Issue Priority System) will help achieve the family of logistical attributes demanded by future joint operational concepts that emphasize distribution and resupply of modular packages through nonsecure lines of communication.

Over-quantification can preclude learning. Peter F. Drucker addresses the learning problem this way in his book *The Effective Executive*: "To be able to quantify, one has to have a concept first ... . The truly important events on the outside are not trends. They are changes in trends ... . Executives may become blind to everything that is perception (i.e. event) rather than fact (i.e. after the event). The tremendous amount of information may thus shut out access to reality."

Furthermore, the military culture tends to assume that the best solutions come from the top; this is why the top gets to choose which numbers are to be reported. The danger is that if the wrong metrics are put in place, they will distract from the real issues. At worst, they can entrench undesirable behavior or reduce productivity. This approach of measuring from the top down can hamper those who deal with the day-to-day solutions by developing new processes that make the numbers obsolete.

In March 2005, Defense Secretary Donald Rumsfeld said, in an interview from the Pentagon, "We have a room here, the Iraq Room, where we track a whole series of metrics. Some of them are inputs and some of them are outputs. ... No one number is determinative. ... We probably look at 50, 60, 70 different types of metrics. ... We come away with ... an impression—it's impressionistic rather than deterministic."

In other words, while metrics can help to identify or alert us to a problem, they cannot present the "right" solution. There is still a need for individual thought and experience and for the ability to reason through the problem in order to find the optimal solution for each unique situation. Conducting operations across the full range of missions requires creative capacity. Those who choose to become metric hawks risk falling prey to the trap of *what* to think and destroying over time their ability in *how* to think. Surely post-9/11 conflicts have taught us we can no longer afford these sorts of "competency traps." As we have learned, some things we just can't keep book on, and when we can, we often find that the numbers don't add up.

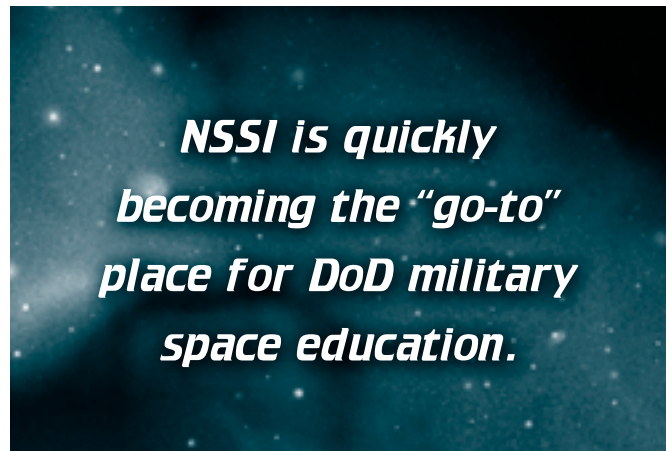# Delivering Acquisition Training to the Space Professional Community

Robert L. Tremaine

There's a quiet revolution going on at Air Force Space Command, and its outcome will be felt in the years to come. At the center of the revolution is the National Security Space Institute—known by some as the "space schoolhouse." NSSI is quickly becoming the "go-to" place for DoD military space education and will eventually arm the nation's more than 10,000-strong space-professional community with an even wider assortment of space warfighting knowledge and specialized skills. As these credentialed space professionals graduate, they will eventually fill key leadership positions, and as they do, the DoD will increasingly exploit space systems. The NSSI is already making considerable headway. With the recent integration of the operations and acquisition functions under one command, Air Force Space Command expects to grow operational space leaders who can fully exploit the space systems they helped design. Air Force Brig. Gen. Erika Steuterman, the NSSI chancellor, emphasizes that "acquisition education at the NSSI is integral to many course offerings since space professionals will benefit from a firm foundation in acquisition essentials."

Need for More Space Education

The NSSI grew from two pioneer organizations: the Space Tactics School (STS) and the Space Operation School (SOPSC). The STS, which existed from 1994-1996 (and was later absorbed by the U.S. Air Force Weapons School in 1996), grew from Operation Desert Storm lessons learned. The two organizations found that campaign planning had not fully leveraged the nation's space capabilities. The STS attempted to fill the void initially. SOPSC, which ran from 2001-2004, extended beyond the sights of the STS and filled the breach by teaching broader space concepts and systems. The schools conducted a thorough examination of how to educationally equip and train its warfighters, and instituted programs that addressed recognized shortfalls.

The Space Commission report of January 2001 amplified the need for more space education and training, noting the shortfall in growing space professionals at senior leadership echelons. The Commission's report served as a catalyst to help transform the SOPSC into the NSSI, which officially activated on Oct. 1, 2004. By then, the space education curriculum had grown to 16 objective courses (in various stages of construction) and covered a wide range of topics in response to the needs of the space professional community.

With an engaging curriculum in place only a year after its official inception, the NSSI is also looking well beyond the horizon. Thanks to a diversified yet unified family of multi-Service (active duty, guard, and reserve), government, federally funded research and development corporations, and support contractor personnel currently assigned, the staff and faculty are focusing on the aggregate needs. The NSSI is also targeting a very broad audience. After first meeting with a number of representative agencies, organizations, and educational institutions involved with space operations and training, they crafted a flexible organizational construct and phased curriculum to help validate the NSSI's strategic goals. Their findings drove them to form three schools: Space Tactics, Space Professional, and Space Operations.

Under these three schools, the NSSI developed a roadmap to include a wide array of course offerings tailored to each school's focus area. Some courses are very mature, others are in various construction phases, and still others have yet to be developed. Some courses have a certain technical specificity and are either system- or functionally centered. For example, the NAVOPS Advanced Course concentrates on the Global Positioning Satellite system and contains a number of subordinate instructional blocks:

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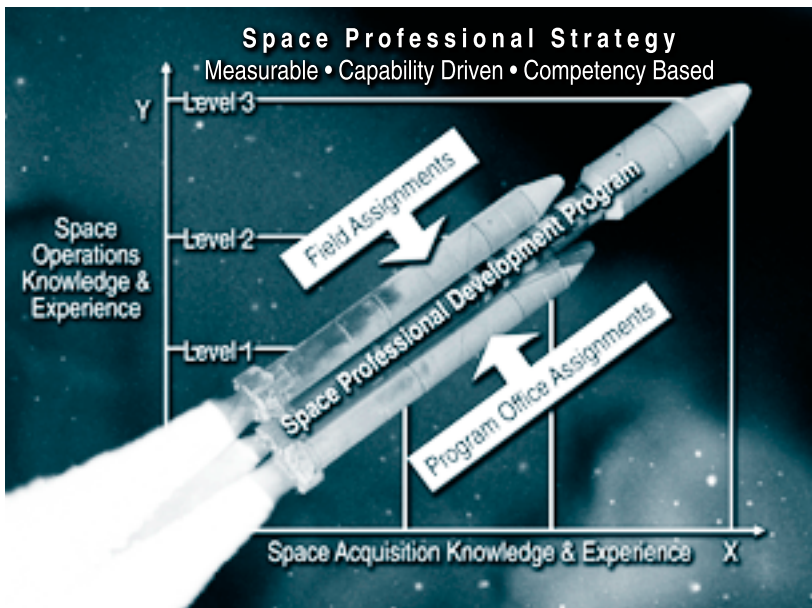
GPS basics; modeling and simulation; control and space segments; tactics, techniques, and procedures; and foreign and future systems. Similarly, the Missile Warning Advanced Course provides an in-depth examination of missile warning and defense with a focus on space-based warning assets. Topics include sensor physics; enemy threat systems; warning architectures; air-, land-, sea-, and space-based sensors; missile warning and missile defense operations centers; warning processes; and tactics. Other courses like Space 200 and Space 300 are very broad in nature, resembling capstone courses. Each embodies many functional areas and relies on broad space system knowledge.

Credentialed Space Professionals and Certification

NSSI course lengths vary from as little as one day to as much as 13 weeks. Recent concentration has been on the flagship courses, Space 200 and Space 300—both four weeks in residence. Space 200, offered 13 or 14 times a year, "provides the educational breadth required by our space professionals and reach many in the community," according to the dean of academics, Air Force Lt. Col. Kyler Barnes. Space 200 and 300 also satisfy part of the Army, Navy, and Marine Corps space professional educational requirements.

Fundamentally, these courses and others under the Space Professional School support a defined certification process outlined in the 2003 U.S. Air Force Space Professional Strategy. In a framework similar to that of the acquisition community, the Air Force space community adopted three certification levels. The Space Professional Certification Strategy is compatible with the Defense Acquisition Workforce Improvement Act. Space Professional Certification

requirements complement but do not replace requirements of the Defense Acquisition Workforce Improvement Act of 1990, and space professionals in acquisition-coded positions must continue to meet DAWIA-defined certifications.

Even though Air Force space personnel (currently numbered at 7,434) fill most NSSI classrooms, the NSSI has reached out to all DoD. As a result, the Army, Navy, Marines, National Reconnaissance Office, and even NASA send their space cadre to the NSSI. While the number of slots available outside the Air Force may seem low, they are generally equivalent to the ratio of space professionals found in their respective domains.

Acquisition Education Considerations

The NSSI considers acquisition education an essential ingredient for space professional development (since space professionals could easily find themselves in acquisition-related positions) and has made it integral to many courses. Three key questions remain, however, as the NSSI continues to look even more closely at its curriculum: Which NSSI courses should include acquisition education? How much acquisition education is enough? What courses might help the space professional achieve credit toward acquisition certification?

To help answer these and related questions, the Defense Acquisition University recently offered its assistance, signing a Memorandum of Agreement on June 10, 2005. A key DAU responsibility is to "research, develop and review NSSI acquisition education" as well as consider the right amount of growth in acquisition presence. The balance is notionally represented in the graphic.

Striking the Balance Between Space Operations and Acquisition Knowledge and Experience

Space Professional Strategy
Measurable • Capability Driven • Competency Based

Which NSSI Courses Should Include Acquisition Education?

Ultimately, it comes down to the NSSI's strategic educational objectives, which consider student experience and educational levels. Currently, Air Force entry-level credentialed space professional personnel (officer, enlisted, and government civilians) get their initial exposure to acquisition education through Space 100 offered at Vandenberg AFB, Calif. Unless they are members of the professional acquisition corps, have been to a project office, or have enrolled in acquisition-related distance/continuous learning courses, they do not receive formal acquisition education and training again until they take Space 200—generally at the eight- to 12-year point in their careers. In most cases, the same is true of the other Services. When the NSSI faculty developed courses, they recognized that some students may have little to no acquisition experience.

Consequently, they incorporated a number of critical lessons into key courses to expose space professionals to acquisition fundamentals. Many of the courses currently offered include tailored space acquisition tutorials that help give students a top-level acquisition context.

In other courses, instructors provide much more acquisition detail, since many lesson objectives and subsequent exercises depend on it. Space 200 is one of those courses. By the end of this course, students must apply knowledge and comprehension of space concept development, space systems, space operations, and space systems acquisition. Space 200 also integrates acquisition imperatives and emphasizes the importance of the operator/user involvement in the acquisition process in order to ensure a system is designed, developed, and deployed to meet the indispensable need. Student understanding is measured by assigning a satellite project. The students actually write a detailed mission requirement, design the orbit, consider orbital maneuvers and supporting communication network, size the payload, assess impacts of the space environment, evaluate potential launch vehicles, and integrate the design solution with other key DoD space assets. The NAVOPS Advanced Course also addresses a wide range of acquisition functions and processes and helps grow GPS experts who will effectively exploit the weapon systems' capabilities.

How Much Acquisition Education Is Enough?

Feedback from course graduates has been favorable, though some students from the first offering of Space 300 indicated the need for a precursor course similar to Acquisition 101. As the NSSI suspected, the acquisition comfort level was lower for some space professionals; however, time becomes a limiting factor. Adding content to course offerings could have a ripple effect on other lessons. If the number of course days is sacred, other lessons might need to be subtracted before any new content can be added. Hence, the real answer is "it depends." It depends on whether the course is missing key acquisition elements that may be required to fully satisfy course objectives. It depends on the expectations we have regarding the institution's strategic acquisition goals and expectations of NSSI graduates. It depends on the placement of Level II and III credentialed space professionals. And it depends on the aggregate acquisition resources available at the institution or at their disposal.

Like other Service schoolhouses, the NSSI shaped courses with student educational levels, job knowledge, operational assignments, and practical experiences in mind. They also found the need to establish a common educational denominator via prerequisite education. Consequently, the NSSI sends prospective students CDs containing lessons on GPS, orbital mechanics, satellite communications fundamentals, and space environment.

Student knowledge levels on fundamentals are now relatively even when students arrive for class.

What Courses Might Help Space Professionals Achieve Credit Toward Acquisition Certification?

Since the majority of acquisition education at the NSSI centers on a general understanding of acquisition, some additional rigor may be required. Very few space professionals are DAWIA-certified, even at the entry level, unless they find themselves in space or missile acquisition project offices. To reverse the trend, DoD could award acquisition certification equivalencies in some functional categories after completion of certain sanctioned NSSI courses. The NSSI and DAU are investigating what particular courses, in combination with other DAU courses (resident or distance learning), might be candidates for DAWIA certification in some functional areas. Space 200 and Space 300 are likely contenders for meeting part of Program Management Levels I and II, since they contain many similar lessons. Similar justifications may apply to other functional areas like systems engineering.

Importance of Distance Learning

NSSI, like many educational organizations, is exploring the benefits of virtual education to supplement classroom attendance. Distance learning provides real educational flexibility for both the instructors and students and, given the time demands on the workforce, might be the most reasonable method available to augment additional NSSI acquisition education. With broad experience and expertise in distance learning, DAU is in a good position to support NSSI's efforts. DAU is already helping develop a space continuous learning module that focuses on National Security Space Policy NSS 03-01 (a hybrid directive formed after blending NRO's Directive 7 and DoD's Directive 5000.1 designed to better accommodate space system acquisitions). This module will serve as an invaluable litmus test for other acquisition distance learning opportunities that show promise for space professionals.
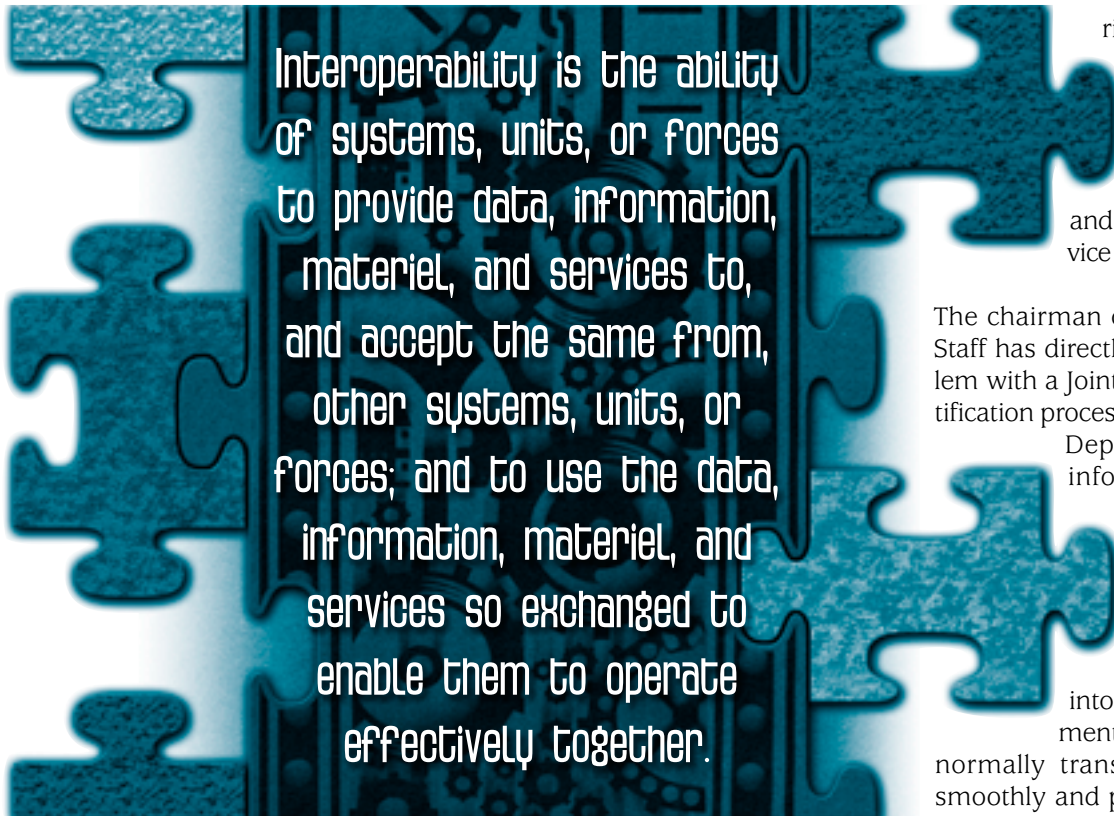
The outlook for space professional education at the NSSI is excellent. The NSSI and DAU partnership will help diversify and enhance the nation's credentialed space professional community educational program. As Air Force Gen. Lance Lord, commander of Air Force Space Command, has said, "The first step to securing our future is to efficiently acquire the space systems and capabilities required by the joint warfighter. … The joint warfighter's need for space demands nothing less."

Joint Interoperability Certification

What the Program Manager Should Know

Phuong Tran ▪ Gordon Douglas ▪ Chris Watson

Interoperability is the ability of systems, units, or forces to provide data, information, materiel, and services to, and accept the same from, other systems, units, or forces; and to use the data, information, materiel, and services so exchanged to enable them to operate effectively together.

Would you agree that a program manager whose system meets performance requirements, is on schedule, and within budget, is in good shape? If your answer is "yes," you might, in fact, be wrong if the system isn't interoperable with its surrounding systems or networks.

They Should Have Known

Whenever the public is made aware of an apparent military failure resulting from inaccurate or delayed information, critics say, "They should have known." While human error, mechanical failure, and the fog of war all play their part, the critics are sometimes right. Some people *did* know, but the right information didn't get to the right people at the right time. That often happens when systems don't share information and interoperate efficiently and effectively across Service or agency boundaries.

The chairman of the Joint Chiefs of Staff has directly attacked this problem with a Joint Interoperability Certification process that applies to every Department of Defense information technology (IT) system and national security system (NSS).

Systems that integrate this process into their overall development and testing schedule normally transition into the field smoothly and provide the best support to their users. Programs where interoperability problems are discovered too late may suffer delays, cost overruns, or—worst of all—contribute to deadly mistakes at critical times.

Program managers need to understand the process and use it to their advantage; and in order to understand, a few basic questions need to be answered.

What is interoperability?

Interoperability is the ability of systems, units, or forces to provide data, information, materiel, and services to, and accept the same from, other systems, units, or forces; and to use the data, information, materiel, and services so exchanged to enable them to operate effectively together. IT

Tran is the chief of the Plans and Policies Branch, Joint Interoperability Test Command. She is a graduate of the University of Arizona and University of Phoenix and has almost 20 years of government service in the T&E arena. Douglas is an operations research analyst with the Plans and Policies Branch, Joint Interoperability Test Command. He is a graduate of the University of Arizona, with more than 20 years of military, government, and private industry experience in research, engineering, and T&E. Watson serves as an information systems test director and corporate communications officer for the JITC organization. His experience encompasses over 20 years in the operation, training, and testing of military IT systems.

and NSS interoperability includes both the technical exchange of information and the end-to-end operational effectiveness of that exchanged information as required for mission accomplishment. Interoperability is more than just information exchange; it includes systems, processes, procedures, organizations, and missions over the life cycle, and it must be balanced with information assurance.

What is interoperability certification?

Interoperability certification is the process of ensuring that a system meets the joint interoperability requirements of its users. It includes the collection of the data necessary to determine whether or not the system conforms to applicable interoperability standards and can effectively exchange all required information with all pertinent systems.

Why is interoperability certification necessary?

Interoperability certification assures the warfighter that the combatant commander, the Services, and agency systems can interoperate in a joint, combined, and coalition environment.

Who certifies that a system is interoperable in a joint environment?

The Joint Interoperability Test Command (JITC—an organizational element of the Defense Information Systems Agency, Test & Evaluation Directorate) has responsibility for certifying joint and combined interoperability of all DoD IT systems and NSSs. JITC facilities are strategically located at Fort Huachuca, Ariz., and Indian Head, Md. The diverse capabilities and resources associated with each respective location allow the armed services to have access to a dynamic environment for laboratory tests and on-site field evaluations.

What systems need to be certified?

All IT systems and NSSs that exchange and use information to enable units or forces to operate effectively in joint, combined, coalition, and interagency operations and simulations.

When should systems be certified?

All systems must be certified before they are fielded. Fielded systems must be recertified every three years or after any changes that might affect interoperability. The system proponent should contact JITC early in the acquisition program to ensure that certification is timely and cost-effective.

What does certification involve?

JITC follows the processes outlined in *Chairman, Joint Chiefs of Staff Instruction 6212.01, Interoperability and Supportability of Information Technology and National Security Systems*, to perform the joint interoperability test and certification mission. This document establishes policies and procedures for developing, coordinating, reviewing, and approving IT and NSS interoperability needs. It also establishes procedures for performing interoperability test certification using a new "net-ready" approach.

Generally, the Interoperability Test Certification process consists of four basic steps. Joint interoperability testing and evaluation can be a repetitive process as conditions change. The steps are to:
- Identify (interoperability) requirements
- Develop certification approach (planning)
- Perform interoperability evaluation
- Report certifications and statuses.

Identifying Interoperability Requirements

Establishing requirements is a critical step, and system sponsors must resolve any requirements/capabilities issues with the Joint Staff J-6. The Joint Staff J6 must certify specific requirements/capabilities if system validation is required. The JITC provides input to the J6 requirements/capabilities certification process and uses the results as the foundation for the remaining three steps of the Interoperability Test Certification process.

The requirements-generation process has been strengthened with the publication of the CJCSI 3170.01, Joint Capabilities Integration and Development System (JCIDS). The JCIDS supports the Joint Staff and the Joint Requirements Oversight Council (JROC) in identifying, assessing, and prioritizing joint military capability needs. As prescribed by the JCIDS process, JITC will participate in the technical assessment of all IT and NSS capability and requirements documents to ensure interoperability requirements are specified in measurable and testable forms. JITC assists in identifying requirements contained in such sources as the program's capability development document (CDD), capability production document (CPD), and information support plan (ISP).

Once requirements are identified, JITC develops a joint interoperability requirements matrix and confirms it with the appropriate operational command or agency. This matrix then serves as the basis for development of the certification approach.

Developing the Certification Approach

JITC's evaluation strategy will identify data necessary to support Joint Interoperability Test Certification as well as the test events/environments planned to produce those data. The current evaluation strategy is driven by DoD's architectural shift towards a net-centric operational environment.

The foundation of DoD's net-centric environment is the Global Information Grid. The GIG is the globally interconnected, end-to-end set of capabilities, processes, and resources for collecting, processing, storing, managing, and disseminating on-demand information to the

IN MEMORIAM

D r. Franz A.P. Frisch died Nov. 20, 2005, in Jackson, Miss., at the age of 86. Witty, colorful, unique, and having lived the World War II history he often wrote about, Frisch remained a popular colleague, mentor, friend, and after his retirement, professor emeritus of the Defense Systems Management College (DSMC) at Fort Belvoir, Va. He first joined the DSMC faculty in 1978 as chief of the Technical Management Division, left for employment with the Navy in 1981, and rejoined DSMC in 1987. After serving over 13 years as a DSMC professor and associate dean, he had retired from federal service in June 1998.

A private in the German Army for nine years, Frisch was an artillery *soldat*, or German simple (common) soldier, whose battalion participated in numerous Panzer assaults in the European war. Drafted from his home in Vienna in 1938, Frisch saw action in the German invasions of Poland in 1939, which began WWII; France in 1940; and the Soviet Union in 1941. In Russia, his unit reached the outskirts of Moscow before the Soviet counterattack and the extreme bitter winter cold forced the Germans backward.

In 1943, his artillery unit was assigned to defend Sicily against the invading Americans. Retreating to Italy, his battalion fought the American advance, including at the bloody Battle of Casino, northward up "the boot," where the Americans captured him near the Austrian border in March 1945, two months before Germany surrendered. He spent the next two years in a prisoner of war camp in Italy before returning home.

Following the war, Frisch completed his education at the Technical University of Vienna, attaining a doctorate in engineering management. After a successful career in shipbuilding and shipyard management in Germany, he and his family emigrated to the United States in 1958.

Besides teaching on the DSMC faculty for more than 13 years, Frisch was also an adjunct professor for Virginia Polytechnic Institute and State University, as well as Massachusetts Institute of Technology, where he taught graduate courses in advanced engineering economy and management concepts.

Frisch published papers on transportation, naval architecture, economy, and management, among other subjects. In 2003, former DSMC professor Wilbur D. Jones collaborated with Frisch to research and write a book on Frisch's campaigns, *Condemned to Live: A Panzer Artilleryman's Five-Front War*.

Preceded in death two years ago by his wife Traudel, Frisch is survived by three daughters who will carry the ashes of both their parents to Europe next spring to be spread over the Danube in their native Austria.

warfighter. This environment compels a shift from "system-to-system" to "system-to-Service" exchange to enable on-demand discovery of and access to all available information resources.

As the GIG evolves toward a net-centric architecture, interoperability testing must also evolve. Increasingly, the requirement will be to test a system's ability to successfully discover and employ the appropriate information resources within the context of the GIG.

The main component of this new approach to interoperability testing is the net-ready key performance parameter. The NR-KPP consists of measurable, testable, or calculable characteristics and/or performance metrics required for the timely, accurate, and complete exchange and use of information expressed by the following four elements:

- Compliance with the Net-centric Operations and Warfare Reference Model (NCOW RM)
- Integrated architecture products
- Compliance with applicable key interface profiles (KIPs)
- Compliance with DoD information assurance (IA) requirements.

The NCOW RM describes the activities required to establish, use, operate, maintain, and manage the net-centric enterprise information environment. It also describes

Unquestionably, interoperability is a key enabler to combat effectiveness.

gral part of net-readiness. All GIG information systems must implement IA elements, such as information operations that protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and nonrepudiation. Also included are system restoration and threat detection capabilities.

All CDDs, CPDs, and ISPs for systems that exchange information with external systems will be reviewed and certified based on adherence to NR-KPP criteria. In turn, JITC will use the NR-KPP thresholds and objectives to ensure that all system information exchange requirements have been satisfied during all applicable test events. These test events must be conducted in an operationally realistic environment. This includes employing production-representative systems, members of the user community as operators, and realistic messages and network loads.

a selected target set of key standards that will be needed as the NCOW capabilities of the GIG are realized.

Integrated architecture product descriptions assist DoD in understanding the linkages between capabilities and systems. An integrated architecture consists of three major perspectives or views—operational, system, and technical—that logically combine to describe a program's architecture. The architecture is integrated when the data elements defined in one view are the same as architecture data elements referenced in another view. Each of the three views depicts certain architecture attributes. Some attributes bridge two views and provide integrity, coherence, and consistency to architecture descriptions.

Because of the complexity of the GIG environment, a form of enterprise-level integration management is needed to facilitate interoperability testing at the seams of GIG components. GIG KIPs are used to communicate the technical specification of the applicable DoD IT Standards Registry (DISR) standards and the implementation of these standards as they apply to key interfaces.

All IT and NSSs must comply with applicable DoD information assurance policies and instructions. IA is an inte-

Performing the Interoperability Evaluation

Interoperability evaluation often spans developmental testing (DT) and operational test and evaluation (OT&E) and relies on multiple test events conducted by various organizations. The amount and type of testing will vary based on characteristics of the system being evaluated.

DT looks at how the system and its components meet the specifications to which the contractor/vendor signed up to build. With the new acquisition strategies, such as spiral development, testers are involved earlier; this helps JITC collect information and data to reduce risk and the time required for interoperability certification and operational testing or assessments. Verification of conformance to standards is one of the first steps in the interoperability testing process. As IT systems/NSSs are designed, the developer is required to implement standards or products contained within the DISR. Early on in the development/acquisition cycle, the particular IT system/NSS (or components of the system) is tested to ensure that the chosen standards are properly implemented. Conformance with DISR standards does not guarantee interoperability, but it is an important step toward achieving it. Developmental testing performed under govern-

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ment supervision that generates reliable, valid data can
be used to determine technical capabilities and standards-
conformance status, and may supplement operational
data for an interoperability evaluation.

As the only joint operational test agency (OTA) in ac-
cordance with Title 10 of the United States Code, JITC
plays several key roles in the OT&E process as well. As
DISA's OTA, JITC oversees and carries out all phases of
OT&E pertaining to DISA-managed programs. Through
policy and agreement, JITC also serves as the OTA for other
DoD organizations that do not have their own dedicated
test resources. JITC's OT&E strategy involves planning and
conducting tests under realistic combat conditions to de-
termine the effectiveness and suitability of the system/pro-
gram. During these events, JITC views interoperability and
net-readiness as operational effectiveness issues.

JITC works closely with the military service OTAs before
or during a system's operational test readiness review
(OTRR). When JITC is involved, it will provide input to the
OTRR covering interoperability/net-ready aspects of the
program based upon pertinent information. In many
cases, JITC will be fully involved during a Service's OT&E
event for the sole purpose of gathering the appropriate
data necessary to certify the system for joint interoper-
ability.

JITC also supports the objectives of the director of oper-
ational test & evaluation (DOT&E) by assisting the exer-
cise staffs in planning, execution, data collection, analy-
sis, and reporting on IA and interoperability of operational
networks and architectures involved in combatant com-
mander field exercises.

Throughout the acquisition cycle, JITC will use any valid
data from DT, OT&E, demonstrations, field exercises, or
other reliable sources for interoperability evaluations. Each
potential data collection opportunity should be used in
the overall certification process to get the best interoper-
ability picture of the system in the most efficient man-
ner possible.

Reporting Interoperability Status
Certification is based on Joint Staff-certified capabilities
and requirements, the criticality of the requirements, and
the expected operational impact of any deficiencies. Cer-
tification is applied to the overall system if all critical in-
terfaces have been properly implemented and tested. In-
teroperability status represents the extent to which a
system is interoperable with respect to the elements of
the NR-KPP, information exchanges, and other defined
interoperability requirements.

What will JITC do to get your system certified?
When contacted by a program manager early in the ac-
quisition process, JITC will:

- Assist in identifying joint interoperability requirements during the concept development/design phase of the program
- Ensure that interoperability is built into the system from the start
- Plan for the most efficient use of resources
- Assist the program manager in identifying solutions to interoperability problems necessary to get the system certified.

JITC also has a range of tools available for system assessments and laboratory resources for testing virtually all types of IT system and NSS.

What will happen if a PM fails to participate in the Joint Interoperability Certification process?

The simple answer to this question comes straight from 6212.01:

> 2. *Failure to meet Certifications*
> a. *If a program/system fails to meet certification requirements, the J-6 will:*
>   (1) *Not validate the program.*
>   (2) *Recommend the program not proceed to the next milestone.*
>   (3) *Recommend that funding be withheld until compliance is achieved and the program and/or system is validated.*
> b. *The J-6 will make this recommendation to the USD (AT&L), USDP, USD (C), ASD (NII), DoD Executive Agent for Space, the Military Communications-Electronics Board (MCEB), and the JROC. The J-6 will also request that the program and/or system be added to the DODI 4630.8, Interoperability Watch List (IWL).*

Of course, real-world capability development and testing are rarely simple, and the DoD has provided several mechanisms for identifying and seeking solutions to current or foreseen interoperability problems. DoD policy clearly states that all IT and NSS, regardless of acquisition category (ACAT), must be tested and certified for interoperability before fielding. The Military Communications Electronics Board (MCEB) Interoperability Test Panel (ITP), identifies, coordinates, and resolves IT system/NSS interoperability policy and testing issues to ensure compliance with DoD policy regarding interoperability of IT system/NSS during the requirements validation process and throughout the remainder of the acquisition life cycle.

To further assist in monitoring compliance with DoD policy regarding interoperability certification, the ITP provides semi-annual interoperability status briefings to the MCEB. These typically provide the overall interoperability status of a functional area or family or system of systems to the MCEB, identifying capabilities that may require additional attention or assistance to achieve full interoperability. When necessary, the ITP may nominate programs for inclusion on the Interoperability Watch List (IWL) of the Interoperability Senior Review Panel (ISRP) established in DoD Instruction 4630.8. Criteria for nominating programs to the IWL include, but are not limited to, the following:

- No plans for (JITC) Joint Interoperability Certification testing
- Failed (JITC) Joint Interoperability Certification tests and no plans for addressing identified deficiencies
- Lack of JCIDS or test documentation for defense technology projects and pre-acquisition demonstrations
- Known interoperability deficiencies observed during operational exercises or real world contingencies
- Noncompliance with approved integrated architectures.

Once a program is placed on the IWL, it is the PM's responsibility to undertake corrective action to address interoperability deficiencies and report progress to the principals represented on the ISRP. If interoperability issues are not adequately addressed or if deficiencies persist, the program or system may be recommended for transfer to the OSD T&E oversight list.

In certain cases, the ITP may grant an Interim Certificate to Operate that may not exceed one year. The ICTO provides the authority to field new systems or capabilities for a limited time with a limited number of platforms to support development efforts, demonstrations, exercises, or operational events, without an interoperability test certification. It is the PM's responsibility to submit the ICTO request. As the ITP executive agent, JITC provides recommendations to the ITP for or against the ICTO, based on available interoperability data and an evaluation of the possible risk to the user and other connected systems. After reviewing the PM's justification statements and JITC's recommendations, the ITP will vote to approve or disapprove the request.

Assurance of Interoperability for the Nation's Warfighter

Unquestionably, interoperability is a key enabler to combat effectiveness. JITC will continue to play an active role in the joint interoperability test and certification process. This proven process affords higher levels of assurance that warfighting systems will interoperate properly so that the battleground does not become the testing ground.

To obtain more information about the Joint Interoperability Certification process, call 800-LET-JITC (800-538-5482) or visit <http://jitc.fhu.disa.mil>.

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Program Execution

It All Comes Down to Making the Hard Decisions

Collie J. Johnson

Kenneth Krieg, the Pentagon's under secretary of defense for acquisition, technology and logistics, says that the biggest challenge acquisition leaders face is a challenge as old as the acquisition business itself—finding and keeping that delicate balance among cost, schedule, and performance.

"This is especially hard in the ever-changing warfighting environment that we face," he told program executive officers and acquisition leaders on the opening day of the fall 2005 PEO/SYSCOM Commanders' Conference. This top-heavy event, attended by the acquisition movers and shakers across DoD, was held at the Defense Acquisition University, Fort Belvoir, Va., Nov. 15-16.

Krieg called the responsibility to balance among cost, schedule, and performance an "awesome" one, and also one that concerns him. "We cannot continue to operate in an atmosphere where we let people outside of our programs add cost, move our schedules, and alter performance without clearly spelling out and accepting the consequences involved in those decisions."

He urged the acquisition community's PEOs and leaders to focus on what the customer really needs and when. "What are the major cost drivers? Can we afford it? What are the life cycle costs? Are there smart tradeoffs available?" He encouraged them to ask these same questions as they move forward through their programs.

"We need to answer these questions so we can ask our customers the fundamental question, which too often I believe we don't do: 'Would you accept 80 percent of the requirement if I could build it in 60 percent of the time at 50 percent of the cost?'"

It all comes down to making the hard decisions, Krieg said, that allow for a balanced portfolio.

"You are the people responsible for making sure that our programs and projects come in on time and on budget, and that we deliver something of value to the customer—the warfighter."

Under Secretary of Defense (Acquisition, Technology and Logistics) Kenneth J. Krieg speaks at the Fall 2005 PEO SYSCOM/Commanders Conference held at Fort Belvoir, Va., Nov 15-16. Krieg outlined six specific goals for the AT&L workforce: 1) Strategic and tactical acquisition excellence (includes IT and engineering); 2) knowledge-enabled joint logistics: integrated, effective, and efficient; 3) selective technology dominance; 4) assure cost-effective capability and capacity available to meet strategic objectives; 5) improve governance and decision processes; and 6) an agile, capable, and ethical workforce.

Krieg reminded the many acquisition leaders assembled that they will ultimately be held accountable for the program's success or failure. "I see my role as giving you the tools and the environment in which to be successful," he said.

Krieg emphasized early and continuous agreement on requirements and spelled out the price for failure: "If our team fails, it is the warfighter who suffers and our nation's security is compromised."

Johnson is editor in chief, Defense AT&L *magazine.*

Moderating the Component Acquisition Executive panel of the fall 2005 PEO/SYSCOM Commanders' Conference was Assistant Secretary of the Army (Acquisition, Logistics and Technology) Claude Bolton Jr (standing). Other panel members shown from left: Jennifer Walsmith, National Security Agency CAE; Deputy Assistant Secretary of the Air Force for Acquisition Integration Blaise Durante; Dale Uhler, Special Operations Command CAE; and Delores Etter, Navy CAE.

Krieg had words of encouragement for the acquisition workforce as they continue to deliver technologically advanced systems to the nation's warfighters—a workforce he described as "thousands of ethical, conscientious professionals who have dedicated their lives to making Department of Defense a strong organization capable of sustaining our nation's security."

Component Acquisition Executive (CAE) Panel

The Component Acquisition Executive panel tied their presentations and discussion to "Program Execution–Best Practices." Panel moderator Claude Bolton, Army CAE, was joined by four other panel members: Delores Etter, Navy CAE; Dale Uhler, Special Operations Command CAE; Blaise Durante, deputy assistant secretary of the Air Force for Acquisition Integration; and Jennifer Walsmith, National Security Agency CAE.

Army CAE

Bolton kicked off discussion with a focus on requirements, and how they must be written in a manner that the collective acquisition community charged with executing the program understands.

"You can be very, very good in acquiring, development, contracting, initial testing, initial fielding—you can be absolutely perfect—but if you didn't get the requirements right, if you weren't resourced correctly, if the equipment or system does not sustain five years after you put it out there in the field, you fail.

"Why? Because the soldier sitting out there in the foxhole or any warrior doesn't see any of that. The clock starts when the soldier puts his hand in the air and says 'I want'; and it ends when he puts his hand down and says, 'I got it.'"

Navy CAE

Etter, only six days into her new job as assistant secretary of the Navy for research, development, and acquisition, spoke of technology as the critical edge for our warfighters as they go out and execute their missions. She further defined that critical edge as "the systems, the equipment, the platforms that [warfighters] are going to have that enable them to track equipment and people, and identify good guys versus bad guys."

She also talked about technical risk. "We want to give so much capability to the men and women who are going to use our weapons systems that we try to push technology into the systems before it's really ready."

Etter advocates a closer look at how the acquisition community evaluates technology maturity and designs testing and systems to help us mature technology in time to fit into an acquisition program. "We must figure out what are the right systems to give to our men and women in uniform today," she concluded.

Special Operations Command CAE

Uhler explained SOCOM's extraordinary mission and how its programs start joint across all the Services. "Even

though one component may have requested [a system or product] within SOCOM," said Uhler, "we assume it's going to be spread across the force, or that it's going to eventually migrate into other parts of the organization. As a result, it's vital that SOCOM keep that tie back to the MILDEPs [military departments].

Uhler agrees with Bolton that requirements are critical, and said that he spends a lot of time looking at SOCOM's requirements when they come up, trying to decide whether a system or capability is something the Army, Navy, Air Force, and Marine Corps might be interested in, or whether it is something so unique that SOCOM will have to develop it with their own capabilities.

Defining stakeholder expectations and taking risks—areas that Krieg had earlier urged the conferees to fully understand and address in their projects and programs—Uhler credits as "the key that makes SOCOM programs go faster.

"We knowingly go in looking for a 50 or 60 percent solution when we've got a requirement coming in from the field. We'll use spirals after that, because our objective is to get the capability into the hands of the user as quickly as possible."

Uhler said that SOCOM has a tremendous number of systems engineering challenges "because we're taking somebody else's developed capability and then we're trying to overlay our unique capabilities on top of it. It works well, but we really are dependent upon the MILDEPs for a lot of help."

Deputy Assistant Secretary of the Air Force for Acquisition Integration

Durante spoke on the importance of mentoring and passing on program management knowledge and best practices before the impending retirement over the next three years of about half of the acquisition workforce. He emphasized the importance of setting a firm foundation early in the program to ensure that the requirements community is part of the team developing the capabilities requirements.

"A lot of the people in the user requirements community think the world can be had," he cautioned, "but they don't look at the cost, schedule, and technical capabilities."

Durante advocated a return to such basics as earned value and systems engineering. He also said that DoD needs more collaboration between the contractor and the government for the most probable costs.

"Once the winning contractor is announced, then incentivize that contractor up and down a sliding scale," he said. "DoD also needs a kill program, he added, "because once a program starts, it's the hardest thing in the world to kill."

Durante said taking care of the troops is the number one priority, and everything else is second. "So we have to do things smarter," he concluded, "because that top [budget] line will not be growing in the future."

National Security Agency CAE

Walsmith explained that NSA's mission, signal intelligence or SIGINT, is about the communications aspect of listening in the intelligence community. She spoke of the rejuvenation of an acquisition capability that hadn't been in place at NSA for over a decade—a rejuvenation she attributes to three initiatives:

- Investing and rewarding the acquisition workforce by rebuilding an NSA acquisition corps, creating a formal planning and professional development approach through partnering with the Defense Acquisition University, and earmarking funds for special bonus and retention incentives.
- Tapping into and leveraging the industrial base through the Provisional Industrial Security Approval, which vets capabilities of potential contractors so they can now visit NSA and obtain more detailed information on NSA's Requests for Proposals; outsourcing of background investigations and accelerating of the security clearance process, which has cut average days of completing an investigation from 247 to 147; and tapping into small businesses for future requirements.
- Acquisition keeping pace with technology, which encompasses maintaining control of NSA's architecture and technology roadmap; prioritizing requirements and phasing them into systems in smaller increments; and exercising discipline with taxpayers' money.

Ethics Panel

In light of procurement scandals that made the news in 2005 and a renewed focus on business ethics and integrity by the secretary of defense and the USD(AT&L), this year's conference featured an Ethics Panel moderated by Pete Geren, special assistant to the secretary of defense. Other panel members were Stephen Epstein, director of standards and conduct, AT&L Office of General Counsel; Maryanne Lavan, vice president for ethics and business conduct, Lockheed Martin Corp.; Richard "Dick" Bednar, head of Defense Industry Initiative (DII) on Business and Ethics; and Pierre Chao, senior fellow and director of Defense Industrial Initiatives, International Security Program, Center for Strategic and International Studies.

Geren opened the panel discussion with a quotation from Albert Einstein that resonated with the audience: "Relativity applies to physics, not ethics." He urged the audience to "think about how you make business decisions, try to identify the factors that go into your decision-making process." In addition to identifying the basics of cost, schedule, and performance, Geren said that leaders must factor in compliance with laws and regulations. "Your con-

The fall 2005 PEO/SYSCOM Commanders' Conference featured an Ethics Panel moderated by Pete Geren (right), special assistant to the Secretary of Defense. Other panel members from left: Pierre Chao, senior fellow and director of Defense Industrial Initiatives, International Security Program, Center for Strategic and International Studies; Richard "Dick" Bednar, head of the Defense Industry Initiative (DII) on Business and Ethics; Maryanne Lavan, vice president for Ethics and Business Conduct, Lockheed Martin Corp.; and Stephen Epstein, director of Standards and Conduct, AT&L Office of General Counsel.

sideration cannot stop with just what is legal," he said. "The laws and regulations set the outside boundaries of your conduct; the ethics tell you where you operate within those outside boundaries."

Epstein talked about the importance of an ethics program within every organization, and ethical conduct as a performance standard against which every leader should be evaluated. He emphasized cultivation of a corporate ethical culture ("corporate" in this context meaning "united").

"If you want cohesion, if you want people who are dedicated to your mission and what you're doing, part of it is what they see going on around them," Epstein said. "And if they see that the rest of the employees—their counterparts, their shipmates—are being held to accountable standards, then they feel much more satisfied with how [leaders] are doing their jobs."

Lavan discussed how Lockheed Martin, as well as the entire defense industry and their government partners, are moving towards a better ethics dialogue.

"It's important to include everyone in the room here," she emphasized, "because really what impacts Lockheed Martin, or impacts Boeing, or impacts Northrop Grumman impacts the whole industry and impacts the Defense Department as well; because the public doesn't distinguish between the contractors, and so whatever hurts one contractor, hurts other contractors and hurts our government partners as well."

Bednar explained that DII comprises 67 companies and is run by defense industry CEOs who "own" the ethics program just as PEOs in defense "own" the ethics program. He noted a startling conclusion from the DII's recent mini National Business Ethics Survey. "The greater [the extent] that the CEO is deeply involved in ethics ... and the greater [the] extent [to which] the CEO controls those pressure points in industry that result in ethical failures—like pressures to make budget, pressures to make delivery, pressures to make schedule—in those companies where we had that deep involvement by the CEO, the perception of ethics and the perception that employees were working in an ethical organization was very high."

Chao said that deeds matter more than words. The type of ethical misconduct recently in the news, he observed, is readily understood as unethical. But the ethical lapses that occur in the gray zones are the ones that are the most insidious. He cautioned that they usually start small.

"[Ethics] start being sacrificed for another goal or something else that you're trying to achieve. And you begin the rationalization process: 'Well, those rules were stupid anyway,' 'it doesn't apply to me,' or 'the boss wants this done so therefore his wants are more important.' That's where the issue of leadership becomes absolutely critical."

Senior Industry Panel

The Senior Industry Panel chose "Program Execution in Collaboration with our Industry Partners" as the focus of

2005 DAVID PACKARD EXCELLENCE
Three Teams Honored

40mm Team

The 40mm Team used new statutory authority to joint venture small businesses, executing a dramatically successful systems contracting business model and awarding the largest small business contract ($1.3B) in Army history to two small business teams. This first-in-class munitions business success applied innovative joint venture teams to small businesses, resulting in increased small business participation of greater than $70M per year in support of congressional small business goals.

Joint Standoff Weapons (JSOW) Integrated Product Team

The JSOW Integrated Product Team led an innovative best-practices acquisition strategy that reduced the JSOW-C weapon unit cost by 25 percent, saving the Navy $133.5 million in the Future Years Defense Plan and an additional estimated $421M over the life of the program. They also implemented value engineering changes that will extend the shelf life of the weapon by 10 years, avoiding the need to refurbish the weapon, and reducing its operating and support costs by $61M.

Photographs by SPC. Michael Lindell, USA

IN ACQUISITION AWARD WINNERS
at Nov. 16 Ceremony

Deployable Joint Command and Control (DJC2) Team
The DJC2 Joint Program Office delivered its first production system to the joint warfighter for operational test less than 18 months from program initiation. Simultaneously, it successfully deployed a developmental system in support of the real-world Joint Task Force operations. This rapid acquisition effort will soon give the Joint Force commander an urgently needed reconfigurable and deployable command center that can be set up and operational in theater in under 24 hours.

On Nov. 16, at the fall Program Executive Officer/Systems Command Commanders' Conference luncheon held at Fort Belvoir, Va., Director of Defense Research and Engineering John Young presented the David Packard Award for Acquisition Excellence to three program teams. Young presented the awards on behalf of Under Secretary of Defense for Acquisition, Technology and Logistics Kenneth Krieg, who was unable to attend. The Packard Award is given to Department of Defense civilian and/or military organizations, groups, and teams who have demonstrated exemplary innovations and best practices in the defense acquisition process.

Young paid homage to the "warfighters out there on the line, protecting this nation every day," and thanked the acquisition community for conducting their mission in a manner that supports that vital effort. Noting that 25 teams were nominated for the Packard this year, he said it was difficult to pick just a handful of winners. The selection process, he acknowledged, was arduous. Young reiterated the comments of Under Secretary Krieg at the start of the conference: "Our acquisition workforce comprises thousands of ethical, conscientious professionals who have dedicated their lives to make acquisition a strong organization capable of sustaining our national security."

"I'm particularly proud of the efforts of these winning teams," Young said. "Each used new and innovative ways to expand the talents of their people, to extend the life of our materiel, to work with our industry partners, and most important, to stretch the purchasing power of scarce tax dollars."

2ND ANNUAL USD(AT&L) WORK
U.S. Army Armament Research, Developm

G O L D   W I N N E R

U.S. Army Armament Research, Development & Engineering Center
Research, Development & Engineering Command

The U.S. Army Armament Research, Development & Engineering Center established the Armament University (AU), offering 425 credit and short courses with an annual attendance of over 5,000; and also implemented Lean/Six Sigma initiatives (a first for any government agency), representing profound cost savings and change in the way they do business.

S I L V E R   W I N N E R

Naval Facilities Engineering Command (NAVFAC)

The NAVFAC Acquisition Directorate redirected the focus of the Naval Facilities Acquisition Center for Training (NFACT) from a training center to managing the content of the contracting processes in the NAVFAC Business Management System; and also developed the Engineering Network (E-NET), a group of practitioners who are forming the knowledge base to support NAVFAC managers throughout the installation life cycle.

On Nov. 15, during the fall 2005 Program Executive Officer/Systems Command Commanders' Conference luncheon held at Fort Belvoir, Va., Director of Defense Research and Engineering John Young presented the DoD AT&L Workforce Development Awards to four organizations. Young presented the awards on behalf of Under Secretary of Defense for Acquisition, Technology and Logistics Kenneth Krieg, who was unable to attend. Acting Under Secretary of Defense (Acquisition, Technology and Logistics) Michael Wynne authorized the award in May 2004 as an annual event designed to recognize field organizations that have made a profound and lasting contribution to career-long learning and development of their employees. The award program also serves to capture best practices for other organizations to adopt.

Young noted that 21 field organizations submitted applications for the 2005 USD(AT&L) Work-

FORCE DEVELOPMENT AWARDS
ent & Engineering Center Takes the Gold

force Development Awards. He called them all winners and "engines for success" in supporting the workforce through initiatives such as mentoring, job shadowing, peer-to-peer learning, on-the-job training, and rotations.

Young described the efforts of the four winning field organizations as innovative human capital initiatives "that I hope each of you will look at and consider emulating because they've been judged to be successful —and they have been successful ... ."

Young said he and the judges saw common threads amongst the four winners: leadership commitment; a strategic approach to career-long learning; strong leadership development program; an allocation of resources—both time and dollars—to the success of the program; and training and development initiatives that people embraced and can make use of.

BRONZE WINNER
Defense Information Systems Agency (DISA)

DISA developed a career management program for its employees, using such developmental activities as job shadowing and peer-to-peer learning; an automated tool called the DISA Talent Management System that employee and supervisor jointly use to select appropriate learning and performance support elements; and a course evaluation process to ensure training, development, and educational opportunities meet the needs of learners.

BRONZE WINNER
Defense Logistics Agency Training Center (DTC)

DLA instituted an "Understanding the Big Picture" initiative to ensure its workforce understands the mission, values, functions, and logistics across the agency to better streamline processes and move from a geographic focus to a customer and supply chain focus; and also provided developmental activities that satisfy the needs of employees at all levels through its Enterprise Leader Development Program, New Supervisor Certification Program, and Executive Succession Planning Program.

The fall 2005 PEO/SYSCOM Commanders' Conference featured a Senior Industry Panel moderated by John Young (right), director, Defense Research and Engineering. Other panel members from left: (not shown) Joanne Maguire, vice president, Lockheed Martin Space Systems; Scott Seymour, president, Integrated Systems Sector, Northrop Grumman; George Muellner, senior vice president and general manager, Air Force Systems, Boeing; and Ed Franklin, vice president, Raytheon.

their discussions. Moderated by John Young, director, defense research and engineering, the panel was composed of Young and four senior members from the defense industry: Ed Franklin, vice president, Raytheon; George Muellner, senior vice president and general manager, Air Force Systems, Boeing; Scott Seymour, president, Integrated Systems Sector, Northrop Grumman; and Joanne Maguire, vice president, Lockheed Martin Space Systems.

Franklin said the top two challenges in program execution at Raytheon from his perspective were requirements stability and realism, and the source selection process. "There's a constant push for everybody to position themselves so they can write the best proposals and come in with the lowest costs ... but neither the government nor industry really understands as well as they should what the risks are, so real matching of risk and cost does not occur." And since no one wants to give away competitive advantage, Franklin observed, communication is often poor.

Franklin advocates managing risk by managing your talent; get high-quality, experienced people and go back to basic disciplines. Find problems early and fix them early, aided by strong metrics.

Muellner highlighted three areas he viewed as troublesome to program execution: instability, i.e., requirements creep or failure to rebaseline programs; inadequate risk-mitigation funding/time; and supplier management/partnerships. His recommended remedies were addressing problem areas through program management best practices, strengthening "functionals," i.e., engineers, supplier management, and cost estimators; and continuing to fa-

cilitate government-industry partnerships with actions such as equal access to data, on-site personnel, or schoolhouse opportunities. "The people on both sides of the program have to be able to trust each other," Muellner said, "not only in what they say, but they need to have confidence that that person on the other side of the aisle in some cases, is competent to do their job."

Seymour talked about how Northrop Grumman is fostering an environment that promotes collaboration with its industry partners. He said that not everything is broken, and there are a lot of good things to look at and learn from on both sides of government-industry. Northrop Grumman, he said, is making a strong push to invest in education and learning, cultivating partnerships, and conducting program management seminars and leadership forums with acquisition agencies and commands, as well as the Defense Acquisition University. Another part of that effort, he added, is bringing back a number of retirees and getting them involved in job shadowing and mentoring of junior workers, and developing case studies oriented around a business approach.

On best practices, Seymour said, "At Northrop Grumman, we're learning that nothing transitions a best practice from area to area better than moving the key people with the technical credibility and customer domain insight to really establish the credibility in that new area with this best product or best practice that somebody has sort of lobbed over the fence into some new part of the country."

Maguire stated that the overarching contextual challenge faced by Lockheed Martin Space Systems and the gov-

ernment-industry acquisition workforce today is the pursuit of effective relationships and true partnerships.

"I, too, worship at the altar of process," she said, "but as I think about the problems that we're confronting and the complexity and the multi-dimensionality of them, I must take a slant that focuses less on process and more on a contextual framework for thinking about problem solving."

She named three areas that pave the way for an effective, mutual partnership: mutual respect, alignment of interests, and communication. She called these three areas the "lubricant that can get government-industry through the friction that exists in the very complex environment in which they both must operate today."

It's all about credibility, she noted, that is rooted in "demonstrated competence and trust—confidence that when you're told something, you can rely on that person."

Navy Adm Edmund B. Giambastiani, Vice Chairman, Joint Chiefs of Staff

Adm. Giambastiani spoke on "Program Views from the Warfighter." He said that we are a nation at war, and from that perspective he named three simple ideas from which he works with Kenneth Krieg, USD(AT&L), and the nation's acquisition professionals: adapting processes to support the warfighter; making sure the acquisition workforce does the right thing in establishing requirements; and "more, deeper, and better conversations [between warfighters and acquisition professionals] to deliver those capabilities that we can afford in a time frame that makes a difference."

On better dialogue and communication, he emphasized that program managers need to feel empowered to come to the requirements community both when they need relief on realistic requirements, and when they can deliver more capability than expected. "It's a two-way street and it's a two-way dialogue," he said. He observed that the only programs that come before the Joint Requirements Oversight Council are those that incur a Nunn-McCurdy breach. "It's a bit late in the process," he said. "Why aren't we having a dialogue earlier in the process?"

Speaking of customer expectations, Giambastiani said, "An 80 percent solution today at reasonable cost beats a 100 percent solution with unlimited time and cost as the alternative any day of the week." Emphasizing complete program transparency as essential, he said that acquisition professionals and warfighters need to understand resource pressures and needed to be able to work together as a team, day in and day out, right up through the senior acquisition executive level to the Defense Acquisition Board.

Program Execution: OIPT Leader Feedback

John Landon, deputy to the assistant secretary of defense for C4ISR and IT acquisition programs, and Dr. Glenn Lamartin, director, defense systems, presented an annual update from their perspective as OSD-level Overarching Integrated Product Team (OIPT) leaders. They spoke of what's happening in relation to the budget deficit; what the impact is on the acquisition community; and what program managers, PEOs, and commanders can do to address it.

"If you know something's coming," said Landon, "then you can do something about it." He noted that the Department of Defense is in a period right now where they're overly reliant on budget supplementals to the point where supplementals are beginning to be thought of as a nor-

"An 80 percent solution today at reasonable cost beats a 100 percent solution with unlimited time and cost as the alternative any day of the week."

—Adm. Edmund B. Giambastiani, USN
Vice Chairman, Joint Chiefs of Staff

mal way of doing business. "But believe me," he cautioned, "when they dry up, the bills don't necessarily go away ... so what you see is big changes in procurement in order to address the total top line for the DoD."

From his perspective, Landon said, he sees that "we are really moving into a period where we need to become better providers, we need to deliver on schedule, we need to push back on requirements growth, and we need to make sure technologies are mature as we enter into the SDD [system design and development] phase." He also advocates incremental increases in capabilities throughout a program. "We can continue to do business the way we have," Landon noted, "or we can think about it and start to confront reality and react to the numbers that are there."

Following Landon's remarks, Lamartin spoke of DoD's grim funding outlook and the importance of smart program execution. "The environment is such that our senior leaders are not going to show great patience with programs that don't seem to fit, that don't seem to have particular value ... . Program execution is something that we all play a part in, and I think that if we do a better job of execution—efficient, effective, economic—than we can help do our share."

He recommended that to succeed in this austere environment, PMs must (1) know their neighborhood and where their system fits; (2) "just say no" to requirements creep and use evolutionary acquisition to time-phase and manage expectations; (3) pay attention to documentation because it is the foundation of any program, promotes transparency, and reduces the burden of admin-

istrative oversight and review; (4) identify risks early and use metrics to gauge progress and mitigate risk; and (5) ensure programs have a rigorous systems engineering approach, as well as a robust developmental test and evaluation program.

"Keep it real, "Lamartin advised. "Architecture, systems engineering, spiral engineering, transformation, capability-based, net-centric—I challenge you to *not* let these very important concept constructs become just buzzwords ... and in so doing, keep these concepts alive."

The Value of Enterprise Behavior

Enterprise behaviors, as defined by DoD, are the behaviors that drive the providing of goods and services for the warfighter, including financial, commercial, and industrial aspects. Navy Vice Adm. Walter B. Massenburg views enterprise behaviors as vitally important to program execution and carrying out the full range of his responsibilities as commander, Naval Air Systems Command. Speaking on "The Value of Enterprise Behavior," Massenburg repeatedly returned to the concept of a single process owner as the real power behind a successful enterprise behavior.

"Until you put your warfighter at the head of everything that you do, until you establish the warfighter as a single process owner, then money is spent and bad behaviors are exhibited because we all get to live in our stovepipes of activity."

A stovepipe of activity, he explained, means that program and project managers have been given responsibility and

The fall 2005 PEO/SYSCOM Commanders' Conference featured an annual update from the OSD-level Overarching Integrated Product Team (OIPT) leaders. Pictured are John Landon, deputy to the assistant secretary of defense for C4ISR and IT Acquisition Programs (standing), and Dr. Glenn Lamartin, director, Defense Systems.

on crisis without any rhyme or reason, and what results is instability in the program." He cautioned against incentivizing behaviors that grow infrastructure at the expense of requirements. "Put somebody in charge," he added, "and hold your subordinates responsible."

Trust and transparency, he said, are absolute requirements for enterprise behavior. "Everything must be on the table ... understand cost and make choices to get the best bang for the buck." Lean must be understood, he added, because it is "the key to continuous improvement."

> "Trust and transparency are absolute requirements for enterprise behavior. Everything must be on the table …."
>
> —Vice Adm. Walter B. Massenburg, USN
> Commander, Naval Air Systems Command

accountability in a stovepipe, and they try to optimize that stovepipe of activity. "And that," he maintained, "is done at the expense of everybody else." If leaders of organizations, charged with protecting the greater good of the organization, allow themselves to live in their stovepipes of activity, then they will perpetuate bad behaviors, Massenburg said, because resources are being expended in the stovepipe of activity rather than for the greater good of the warfighter.

He talked about the "me" attitude that permeates some organizations. "If we're really serious about this DoD business enterprise, we have got to understand the greater good ... we're not taught to understand or care about the greater good. We're taught to perform in, and optimize our stovepipe, and if you optimize that, you're doing the best for DoD. I'd say that's bad leadership," he observed, "because what it does is allow corporate ego to creep into decision making, which is inefficient and ineffective behavior."

Massenburg said that when an organization starts to mature enterprise behavior beneath the top layer of leadership, "what you find is striking new ways to do business." He highlighted four metrics for optimal enterprise behavior: inventory of people and "stuff"; reliability; cycle time; and cost. "If you don't have metrics on those four," he emphasized, "you will be inefficient and ineffective."

DoD tends to take the money from future readiness to finance the present, he said. "That's what we do in this business. ... We swing the pendulum back and forth based

Massenburg outlined NAVAIR's enterprise behavior model and explained how its application could relate across the Services. "You have to account for every person, and every dollar, and every piece of stuff," he said. "And one person, and one dollar, and one piece of stuff can only be owned by one person. There can't be dual owners, or 'I don't really know where that money is,' because what you're doing is abdicating responsibility and accountability for people, dollars, and stuff. And if you don't know from whence you're departing," he cautioned, "you'll never get to where we [DoD] need to go, which is less people, less stuff, and more dollars to provide for our future to buy new stuff."

Concluding the conference, Massenburg said "The warfighting enterprises are the ones that have to drive this enterprise behavior. Until you put responsibility and accountability with a single process owner of whom you have an expectation to drive behavior, you can't get to people, dollars, and stuff."

To view and listen to videostreaming of each panel or speaker discussed in this article, go to the DAU Visual Services Web site at <http://view.dau.mil/dauvideo/view/channel.jhtml?stationID = 1628970137>. David Walker, Comptroller General of the United States, also spoke at the fall 2005 PEO/SYSCOM Commanders' Conference. A feature article based on his presentation appears on page 10 of this issue.
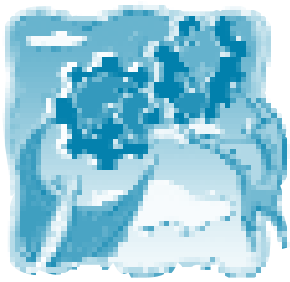
In the News

CARGO TRACKING TECHNOLOGY IMPLEMENTATION LETS MILITARY "SEE" SHIPMENTS FROM FACTORY TO FOXHOLE

Alan Ables

SCOTT AIR FORCE BASE, Ill. (USTCNS)—Chenega Technology Services Corp. and the University of Alaska at Anchorage are helping the Department of Defense to synchronize military cargo shipments, from factory to foxhole. The goal is for all the military services, defense agencies, and supporting commercial enterprises to achieve greater visibility of shipments so that confidence, efficiency, and reliability are improved.

The assistance comes through a $6.88 million contract to Chenega and its subcontractor, the University of Alaska at Anchorage. The contract initiative, administered by the Defense Logistics Agency (DLA) and the U.S. Transportation Command (USTRANSCOM), relies on Radio Frequency Identification (RFID), a data input system of tags, readers, and computer software, which lets defense supply chain managers "see" into their end-to-end distribution pipeline and track cargo from origin to destination. The project integrates active and passive RFID into a single concept of operations using a well-defined infrastructure ... the West Coast to Alaska region.

The Alaska initiative will establish the network through which DoD will move forces and materiel and gain the visibility required to execute with precision and agility. It involves air, land, and sea shipments from the Defense Distribution Center, San Joaquin, near Travis Air Force Base, Calif., through the Travis aerial port, the ports of Tacoma, Wash., and Anchorage, Alaska, to delivery at Elmendorf Air Force Base and Fort Richardson, Alaska.

"The Alaska program is an initial implementation in a controlled environment of passive RFID for military sustainment goods, such as Meals Ready to Eat, clothing, nuts-and-bolts kinds of items," according to Dr. Elisha "Bear" Baker, director Alaska Center for Supply Chain Integration, University of Alaska, Anchorage.

An RFID system includes a transponder, referred to as a tag; a tag reader, known as an interrogator, which reads the tag using a radio signal; data processing equipment; and a method of communication between the reader and the computer.

The reader sends a signal to the tag, which prompts the tag to respond with information about the container or item to which it is attached. The information is forwarded to central data processing equipment, which can then be used to get detailed information about the container or item, such as the shipping date or the date received.

In July 2004, the Department of Defense published its RFID policy, the business rules for implementing two types of RFID tags: active and passive. Active tags contain an internal power source, enabling the tag to hold more data and allowing a longer "read" range. Passive tags do not contain any power source, hold less data, and have shorter "read" distances.

"This is a great opportunity for USTRANSCOM and DLA to make significant strides in active and passive RFID implementation, while learning valuable lessons we can apply across our supply chains," according to Fred Baillie, executive director of the DLA's Distribution Reutilization Policy directorate.
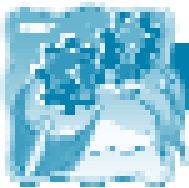
"The DLA will train a select cadre of USTRANSCOM and Service distribution and shipping personnel to use RFID equipment for the Alaska RFID implementation. We expect this joint effort to jumpstart the use of passive RFID tags in the supply chain, which will complement the existing use of active RFID tags," he said.

Baillie said RFID use will decrease supply delivery time to warfighters and give them more confidence in the supply process. "From this effort we expect improved visibility of defense assets, increased inventory accuracy, improved customer support, reduced reordering, reduced shipping losses, reduced labor costs, less material handling equipment, and a reduced number of 'touch points,' all of which combine to decrease delivery time."

In September 2003, Secretary of Defense Donald Rumsfeld gave USTRANSCOM responsibility for synchronizing the supply chain. The command has begun several initiatives to help eliminate redundant supply lines and incompatible communications systems.

"The advantages to the warfighter are obvious: everyone involved in the supply chain, from manufacturers and suppliers in the United States to the forward-deployed supply sergeant with a lap top computer, will know exactly what's en route and when it'll arrive," according to Army Lt. Gen. Robert Dail, deputy commander of USTRANSCOM.

Ables is a speechwriter with U.S. Transportation Command Public Affairs, Scott AFB, Ill.

AIR FORCE INTRODUCES NEW HELI-COPTER FOR PILOT TRAINING

Capt. Gideon McClure, USAF

RANDOLPH AIR FORCE BASE, Texas (AFPN)—The Air Force rolled out the TH-1H helicopter at the home of pilot instructor training and Head-quarters Air Education and Training Command on Nov. 5 in conjunction with the base's 75th anniversary and 2005 air show.

NEW HUEY ON DISPLAY. This new TH-1H Huey II heli-copter was in position near the west control tower at Randolph Air Force Base, Texas, for the base open house event Nov. 5 and 6, 2005. It is the latest aircraft to join the Air Force inventory and will serve as the undergraduate pilot training platform. Some major exterior differences from its predecessors are an enlarged nose and wider main rotor blades, and the tail rotor is now on the starboard side for better performance. Inside it has undergone an extensive refurbishment including upgraded components and a new avionics suite with a glass cockpit.

U.S. Air Force photo by Master Sgt. Lance C. Cheung, USAF.

The TH-1H, the latest version of the UH-1H Huey, has undergone an extensive refurbishment including up-graded components and a new avionics suite with a glass cockpit. The old helicopters were equipped with tradi-tional round dial gauges for altitude, speed, etc. The glass cockpit takes the same information and displays the in-formation digitally on a single monitor. Four of the orig-inal round dial gauges will remain as a back-up system.

"The TH-1H's advanced electronics provide expanded training opportunities and improved operational capa-bilities by upgrading the engine, transmission, and rotor system," said Brig. Gen. Richard E. Perraut, Air Educa-tion and Training Command Plans and Programs direc-tor. "It has the latest multi-function displays, allowing for future upgrades and providing new aircrews with a seam-less transition from the T-6 to a follow-on rotary wing air-craft such as the CV-22, Combat Search and Rescue-X, and Common Vertical Lift Support Platform helicopters."

The TH-1H is the newest of more than 15 variants of the original Huey first flown in 1956. By 2009 the Air Force is scheduled to have 24 TH-1Hs in the inventory, which will sustain Air Force helicopter pilot training until 2025.

"The first TH-1H is undergoing testing and evaluation," Perraut said. "We are projected to receive our first pro-duction aircraft in April 2007 with small group tryouts to follow."

The tryouts will allow instructors to develop and analyze the curriculum that will be used to train helicopter pilots on the new aircraft.

"This is the first step to providing the platform and syl-labus for the new students with the first class scheduled in the summer of 2007," the general said.

McClure is with Air Education and Training Command, Ran-dolph AFB, Texas.

HIGH-TECH MICRO AIR VEHICLE WILL BATTLE WITH SOLDIERS

Pfc. Kyndal Brewer, USA

SCHOFIELD BARRACKS, Hawaii—While on a dis-mounted patrol along a rocky dirt path, soldiers from 2nd Battalion, 5th Infantry Regiment, stayed alert of their surroundings as they made their way to the Military Operations in Urban Terrain site.

When it was time to enter the site, the platoon-sized element stopped in the wood line and came up with a plan of action.

Minutes later, a micro air vehicle operator called and provided information on enemy locations. As soon as the troops had a good location of the enemy, they maneuvered onto the site grounds. When the enemy spotted the troops, a firefight ensued.

The troops remained alert and moved tactically into nearby buildings. They cleared every room until they reached the rooftops, where they began to return fire. Using its two onboard cameras, the micro air vehicle system assisted the troops in figuring out where the enemy was located.

"I think this training is good for us because it's new equipment that a lot of people haven't gotten the opportunity to train with yet," said Pvt. Gregory Goodrich, a cavalry scout with 2nd Battalion, 5th Infantry Regiment.

"It isn't just training on the micro air vehicle equipment, it also helps us train more on our tactical and basic soldiering skills," said Goodrich, who was one of the system operators during the training.

The micro air vehicle technology was designed to gather and transmit information to soldiers on the battlefield. According to the Web site <www.spacewar.com >, each system is composed of two air vehicles, a dismounted control device, and associated ground support equipment that is carried by selected platforms and dismounted soldiers.

The micro air vehicles use autonomous flight and navigation with vertical take-off and landing and recovery capabilities.

Two cameras are mounted on each vehicle; one looks ahead of soldiers, and the other looks down at the ground. The vehicles also carry chemical sensors.

"The micro air vehicles are the future," said 1st Lt. Mario A. Quevedo, a platoon leader with 2nd Battalion, 5th Infantry Regiment. "These young soldiers that are out here training with it will see it again, and they will already know how to use it."

U.S. Army Pvt. Gregory Goodrich carries the Micro Air Vehicle system on his back as his platoon goes on a dismounted patrol. This portable reconnaissance and surveillance system will provide useful real-time combat information in various battle scenarios. *U.S. Army photograph by Pfc. Kyndal Brewer, USA.*

For the past month, 40 soldiers from 2nd Battalion, 5th Infantry Regiment, have been training with the new, high-tech surveillance vehicles.

"This training is very beneficial to these soldiers because when we go down range in the future, this equipment will go with us," Quevedo continued. "The micro air vehicles are here to stay."

AIR FORCE MATERIEL COMMAND NEWS SERVICE (NOV. 2, 2005)
NEW TECHNOLOGY "DAZZLES" AGGRESSORS

Eva D. Blaylock

KIRTLAND AIR FORCE BASE, N.M. (AFPN)—A laser technology weapon will be the first man-portable, non-lethal deterrent weapon intended for protecting troops and controlling hostile crowds.

The weapon, developed by the Air Force Research Laboratory's Directed Energy Directorate, employs a two-wavelength laser system and is a hand-held, single-operator system for troop and perimeter defense. The laser light used in the weapon temporarily impairs aggressors by illuminating or dazzling individuals, removing their ability to see the laser source.
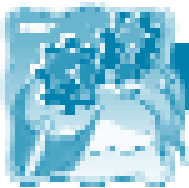
The first two prototypes of the Personnel Halting and Stimulation Response, or PHaSR, were built here last month and delivered to the laboratory's Human Effectiveness Directorate at Brooks City Base, Texas, and the Joint Non-Lethal Weapons Directorate at Quantico, Va. for testing.

"The future is here with PHaSR," said Capt. Thomas Wegner, program manager. Wegner is also the ScorpWorks flight commander within the laser division of the energy directorate here. ScorpWorks is a unit of military scientists and engineers that develops laser system prototypes for AFRL, from beginning concept to product field testing.

The National Institute of Justice recently awarded ScorpWorks $250,000 to make an advanced prototype that will add an eye-safe laser range finder into PHaSR. Systems such as PHaSR have historically been too powerful at close ranges and ineffective, but eye-safe, at long ranges. The next prototype is planned to include the addition of the eye-safe range finder and is planned for completion in March 2006.

Blaylock is with Air Force Research Laboratory, Directed Energy Directorate Public Affairs, Kirtland AFB, N.M.

MARINE CORPS BASE QUANTICO (NOV. 3, 2005)
MARINES EYE REPLACEMENT FOR HUMVEE

Cpl. Jonathan Agg, USMC

MARINE CORPS BASE QUANTICO, Va. (Nov. 3, 2005)—The Marine Corps is searching for a larger, more capable combat transport to replace the Humvee.

The Fires and Maneuver Integration Division of Marine Corps Combat Development Command is outlining the requirements for its future vehicle, dubbed the Combat Tactical Vehicle, with the goal of fielding the first CTVs in 2011.

Kevin M. McConnell, deputy director of the Fires and Maneuver Integration Division, said the Humvee, while a battle-proven tactical vehicle, is beginning to show its limitations in Iraq and Afghanistan.

"The Humvee A2 is a great vehicle, [but] it has outlived its usefulness," said McConnell. "We have added very capable armor to the Humvees in Iraq. But for every pound of armor you add, that's a pound less capable the vehicle is. We have done a lot of modifications to the vehicle, and it's at the end of its capabilities. There is just no more you can do for that vehicle."

KIRTLAND AIR FORCE BASE, N.M. (AFPN)—Air Force Capt. Drew Goettler demonstrates the Personnel Halting and Stimulation Response, or PHaSR, a non-lethal illumination technology developed by the laboratory's ScorpWorks team. The technology is the first man-portable, non-lethal deterrent weapon intended for protecting troops and controlling hostile crowds. The laser light used in the weapon temporarily impairs aggressors by illuminating or dazzling individuals, removing their ability to see the laser source.

U.S. Air Force photograph.

This conceptual sketch of the combat tactical vehicle highlights some requirements, including increased ground clearance, V-shaped underbody armor, and advanced composite armor.
Illustration by Cpl. Justin Lago, USMC.

McConnell said among the improvements is the requirement that the CTV accommodate up to six Marines with their existence loads and three days of food, water, and ammunition.

The current Humvee, including up-armored versions, normally seats four Marines or less.

"As we go into the future, we know we have to plan for a couple of things," said McConnell. "We have to plan for increased mobility of the ground combat element, and we need to plan for (heavier) payloads. The first configuration we want to build is a people mover, not a fighting vehicle. It will take six guys with three days of supplies and be able to perform like a BMW on the Autobahn."

McConnell said the requirements for the CTV, including its ability to transport six combat-ready Marines, supports Operational Maneuver From the Sea and Distributed Operations, as well as the Marine Corps' capstone concept, seabasing.

"The Expeditionary Fighting Vehicle, the EFV, holds 17 people, a reinforced rifle squad," said McConnell. "Three CTVs would hold a reinforced rifle squad. It supports our distributed operations concept. It allows that type of unit to be tactically employed. We figured out a way to divide a reinforced squad into packages.

"Why didn't we make it a 17-person vehicle? One, it would be a big vehicle. Two, if you take out that vehicle, you take out 17 people. You split them up into more vehicles and you increase the survivability of the team itself."

The CTV combines a laundry list of requirements, drawn in large part from the Marine Corps Center for Lessons

Learned and the Marine Corps Warfighting Laboratory, and it responds to the needs of the modern warfighter.

"There is nothing better than a war to validate ideas," said McConnell. "All of the requirements that we have built into this are traceable back to something that somebody, from lance corporal to colonel, who has been to Iraq or Afghanistan or both, has told me or one of the guys in the division."

McConnell said the Marine Corps is working with the Army, Navy, Air Force, and U.S. Special Operations Command to identify joint requirements that could help turn the CTV into a joint endeavor.

"The requirements for [the Army's concept] vehicle line up pretty closely with CTV," said McConnell. "In the end, we and the Army are working very hard to make this a joint program. There are a lot of efficiencies in doing this with one vehicle, both in production and in life cycle management."

According to McConnell, the Marine Corps has an inventory of about 20,000 Humvees, while the Army has more than 120,000.

By December, McConnell said his team hopes to have a solid draft of an initial capabilities document to present to the Joint Requirements Oversight Council and the Marine Requirements Oversight Council, the next step in the process for the CTV.

"I intend to have a very good draft of that in December to begin socializing the vehicle and its requirements in the Marine Corps and the other Services," said McConnell. "Why we're doing this now is because at no time in the last 20 or 30 years have we had such a wealth of information coming in about what the Marine Corps needs to run a war. Now is the best time to make it happen."

AIR FORCE PRINT NEWS (NOV. 3, 2005)
CUTTING-EDGE MICRO-SATELLITE ACHIEVES MILESTONES

Michael P. Kleiman

KIRTLAND AIR FORCE BASE, N.M. (AFPN)—A 220-pound micro-satellite developed by the Air Force Research Laboratory's Space Vehicles Directorate recently accomplished significant mission milestones when it rendezvoused with the upper stage of a Minotaur I launch vehicle at distances between 1.5 kilometers and 500 meters.

The Air Force has used the Experimental Satellite System-11 micro-satellite, commonly referred to as XSS-11, to investigate a variety of prospective space applications, including servicing, repair, and resupply.

"XSS-11 is a demonstration in space rendezvous and proximity operations," said Harold Baker, XSS-11 program manager. "The spacecraft also has an onboard rendezvous and proximity operations planner in the avionics to aid in developing autonomous operations for future concepts and missions."

Launched in April 2005 from Vandenberg Air Force Base, Calif., XSS-11 has completed more than 75 natural-motion circumnavigations of the expended Minotaur I rocket body. During its projected 12- to 18-month flight, the spacecraft will conduct rendezvous and proximity maneuvers with several U.S.-owned dead or inactive space objects near its orbit. It will also demonstrate more autonomy as the project continues.

"The micro-satellite is performing better than expected," Baker said. "Fuel consumption and efficiency are good, and we expect to be operational for another year. In addition, we have had no significant technical glitches and no major anomalies."
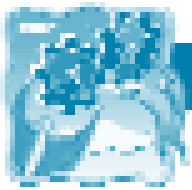
Managing and monitoring the micro-satellite's progress has been the focus of the flight control team composed of people from both the Space Vehicles Directorate and the Space and Missile Systems Center's Detachment 12, also located at Kirtland.

Staffing, however, has been reduced by 50 percent becaise of the spacecraft's flawless performance, and officials said another decrease is expected in the future as the micro-satellite's demonstration in autonomy advances.

With a projected cost of $82 million, XSS-11 program managers have planned an aggressive, event-driven flight, which could ultimately enhance Air Force Space Command's prospective missions of space servicing and maintenance and space support.

In addition, as a result of its innovative autonomous flight, officials said the XSS-11 mission may reduce the number of people and the amount of equipment needed to operate future space missions.

"The micro-satellite will remain in a systems functional test for the next month or two, as we are still checking out the spacecraft's various components," Baker said. "The whole part of this mission is to be safe. If we hit the resident space object, we fail.

"To date, most other rendezvous experiments have been designed primarily for the purpose of docking and repair missions. They relied heavily on the other object's having guidance and navigation aids as well as docking mechanisms," Baker said. "XSS-11 does not rely on navigation aids from the other resident space objects or docking mechanisms."

Kleiman is with Space Vehicles Directorate, Air Force Research Laboratory, Kirtland AFB, N.M.

AIR FORCE MATERIEL COMMAND NEWS SERVICE (NOV. 3, 2005)
CENTER REDESIGN PROMISES TO IMPROVE PRODUCTION

Darren D. Heusel

TINKER AIR FORCE BASE, Okla. (AFPN)—Continuous process improvement is alive and well at the Oklahoma City Air Logistics Center. For proof, look no further than the 76th Maintenance Wing's new F100 Business Unit being stood up as part of a landmark $500 million, 10-year process of transforming maintenance, repair, and overhaul, or MRO operations.

Just four months have elapsed since the OC-ALC kicked off its MRO transformation initiative. But already the center is showing steady progress with redesign efforts of building a leaner work environment designed to produce world-class products on time and on cost. The center is one of three Air Force Materiel Command air logistics centers.

As the F100 Business Unit continues to prepare for additional swing space cell moves, one of the biggest reasons for the team's marked success to this point has been taking lessons learned from previous Lean initiatives and incorporating those into the new designs.

"As with everything we do at the Oklahoma City Air Logistics Center, our focus is on finding better, more innovative ways to support the warfighter," said Brig. Gen. Francis M. Bruno, 76th Maintenance Wing commander. "Certainly, the transformation is driven by that focus."

Signs of the transformation are most visible in an area that once contained the F100 high-pressure turbine and high-pressure compressor shops, which are now shrouded in white plastic curtains stretching from the floor to the ceiling to prevent foreign object damage.

Behind the curtains, preparatory work is being done to an area that will house the F100 inlet fan disk cell, one of the center's first cells under the MRO transformation initiative.

To date, the 76th Maintenance Wing, 448th Combat Sustainment Wing, 327th Aircraft Sustainment Wing, and the 72nd Air Base Wing have been working closely with their MRO contractor partner, Battelle, and its team of subcontractors to complete the removal of the area's former infrastructure to make room for the current redesign elements.

"If we streamline our processes, cut down on flow times, and give the mechanics what they need when they need it to get the job done—and done right the first time— the warfighter will benefit," Bruno said. "That's why we're transforming Tinker."
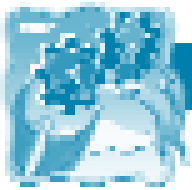
The government/contractor team is working closely together to come up with the best solutions to complete the project. An integrated product team structure feeds into the Depot Maintenance Transformation Board, which is accountable to a process council.

The curriculum includes an introduction to Lean/cellular, employee readiness, and cell operation implementation training. The training prepares employees to design and operate in their new cells.

"Traditionally, this ALC, like any other MRO facility, was set up as a functional organization," said Robert Longoria, a Standard Aero employee who works as a design lead for Team Battelle. "But based on past experiences, Tinker has decided it was worthwhile to take Lean to the next level.

"The bottom line is you're going to get a better-quality product without asking the employees to work any harder because they have better facilities to work in. That makes the employees more open to embracing the change," he explained.

"When you first come to work here, there are a lot of things you question looking from the outside in," said Anthony Velasquez, an engine process analyst in the engine transformation office who has experienced transformation firsthand.

Velasquez said the greatest lessons learned from the past were that communication needs to be a constant at all levels, and employees on the floor who know the process need to continue to bring ideas forward.

During the transition, the center must also keep up with production.

"It's been said by our management that this could be compared to riding a bicycle and changing a flat at the same time," said Stan McKinney, backshop unit chief for the F100 inlet fan disk cell. "We still have to support the warfighter, but at the same time transform."

"On the positive side, this Lean cell transformation is allowing us to better support the warfighter by making better-quality products," said Barbara Wilson, an aircraft mechanical parts worker in the engine transformation office. "You have more time to spend on that product because you have everything you need in a central location.

"You also have an opportunity to provide input, and it's important to know that what you say does matter. I think it's a great thing to have everything you need right there in your own shop. You see the transformation from start to finish."

In all, seven business units are scheduled for transformation by March 2016. And while the total projected investment in the overarching transformation is estimated at $496.6 million, officials hope to recoup the entire amount in just eight years by virtue of increased efficiencies.

The business units include F100 engines, Pratt & Whitney engines, GE engines, tanker aircraft, surveillance aircraft, bomber aircraft, and commodities.

Heusel is with 72nd Air Base Wing, Tinker AFB, Okla.

AMERICAN FORCES PRESS SERVICE (NOV. 7, 2005)
DECISIONS MADE TODAY WILL GIVE EDGE TO TOMORROW'S FORCE

Donna Miles

WASHINGTON—Decisions being made today about how troops are recruited, equipped, trained, and stationed will have far-reaching implications during future operations, according to the commandant of the Marine Corps.

The future battlefield is likely to be much like today's—uncertain, chaotic, and full of fog—so it's critical that the military continue to recruit and retain smart men and women and train them to operate in such an environment, Marine Gen. Michael Hagee told reporters at the National Press Club.

Tomorrow's military members, like today's, will need to be able to think quickly on their feet, often making decisions with less information than they'd like, he said. And that applies regardless of the type of operation they're conducting, from high-end combat operations to humanitarian- and disaster-relief operations.

If history is any guide, the military will again he called to fight a future conflict, Hagee said. And just as certainly, the military will be called to respond to humanitarian crises, including tsunamis, hurricanes, and earthquakes like those witnessed around the world during the past 10 months alone, he said.

Decisions in shaping the force for the future will be guided by findings of the upcoming Quadrennial Defense Review, which will look 10, 15, and more years into the future, Hagee said.

Predicting the future is no easy task, he acknowledged. "We're doing everything we can to get it right or not get it wrong as we design the force of the future," he said.
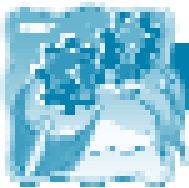
"That means recruiting the best troops possible, continuing to provide them the equipment they need, and replacing it as needed when it's seen heavy use, such as in Iraq, so it's ready to go for the next contingenc," Hargee said.

It also means positioning troops where they can operate most effectively and giving them the capabilities to deploy quickly to hot spots when they're needed.

At the same time, it requires giving troops the education and training they need to perform on a battlefield that requires quick thinking and good decision making, he added.

Hagee cited the success of this formula during the battle of Fallujah, Iraq, where he said Marines "absolutely crushed the insurgency" last year.

"There's still a great deal to do," Hageee said of operations in Iraq. "It's still very hard, and it is still quite dangerous over there."

> *"The most dangerous weapon on any battlefield is a United States Marine. There is no doubt about that."*
>
> —Gen. Michael W. Hagee
> Commandant, U.S. Marine Corps

Improvised explosive devices continue to be the biggest challenges troops in Iraq face, he said. And with many of these weapons becoming increasingly complex, Hagee said, they're no longer improvised at all. "Some are very sophisticated," he said.

No one technology or solution is likely to counter the IED threat, Hagee said, noting that weapons like these will probably remain the insurgents' weapons of choice.

"No one out there is willing to take us on one on one or even squad to squad," he said. "If they do, they know they will lose."

That military superiority will remain critical to the military of tomorrow as its members face new threats and missions.

As they prepare for the future, Hagee said, the Marines will retain the fighting edge that's been their trademark for the past 230 years. "The most dangerous weapon on any battlefield is a United States Marine. There is no doubt about that," he said.

DEPARTMENT OF DEFENSE NEWS RELEASE (NOV. 15, 2005)
DOD RELEASES SELECTED ACQUISITION REPORTS

The Department of Defense has released details of major defense acquisition program cost and schedule changes since the June 2005 reporting period. This information is based on the Selected Acquisition Reports (SARs) submitted to the Congress for the Sept. 30, 2005, reporting period.

SARs summarize the latest estimates of cost, schedule, and technical status. These reports are prepared annually in conjunction with the president's budget. Subsequent quarterly exception reports are required for only those programs experiencing unit cost increases of at least 15 percent or schedule delays of at least six months. Quarterly SARs are also submitted for initial reports, final reports, and for programs that are rebaselined at major milestone decisions.

The total program cost estimates provided in the SARs include research and development, procurement, military construction, and acquisition-related operation and maintenance (except for pre-Milestone B programs, which are limited to development costs pursuant to 10 USC 2432). Total program costs reflect actual costs to date as well as future anticipated costs. All estimates include anticipated inflation allowances.

The chart at the top of the next page shows the current estimate of program acquisition costs for programs covered by SARs for the prior reporting period (June 2005), which was $1,474,049.4 million. There was a net cost increase of $64,999.4 million (+ 4.4 percent) during the current reporting period (September 2005), which was due primarily to cost increases associated with the four-year stretchout and restructure of the FCS program.

In the News

For the September 2005 reporting period, there were quarterly exception SARs submitted for 13 programs. The reasons for the submissions follow.

ARMY

ACS (Aerial Common Sensor)—The SAR was submitted to report schedule slips of at least six months due to sensor integration challenges on the selected platform resulting in space, weight, power, and cooling issues. There is currently a 90-day contract stop-work order in place. Alternative solution sets are being investigated. Impacts to performance and cost are not known at this time.

ARH (Armed Reconnaissance Helicopter)—This is the initial SAR submission following approval to proceed into System Development and Demonstration (Milestone B) on July 26, 2005.

ATIRCM/CMWS (Advanced Threat Infrared Countermeasure/Common Missile Warning System)—The SAR was submitted to report schedule delays of more than 30 months for ATIRCM Initial Operational Test and Evaluation (IOT&E), First Unit Equipped, and Full Rate Production (FRP). The delays result from CMWS acceleration and ATIRCM performance and reliability issues, which resulted in separate IOT&E and FRP decisions. Program costs decreased $8.1 million (-0.1 percent) from $4,717.0 million to $4,708.9 million, due primarily to acceleration of the A-Kit (installation kit) buy by three years.

FCS (Future Combat Systems)—Program costs increased $62,541.4 million (+63.3 percent) from $98,878.6 million to $161,420.0 million, as a result of program re-

structure (+$54,270.6 million) and extension of schedule by four years (+$8,270.8 million).

JLENS (Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System)—This is the initial SAR submission following approval to proceed into System Development and Demonstration (Milestone B) on August 5, 2005.

NAVY

CVN 21—The SAR was submitted to report a schedule delay of the Defense Acquisition Board (DAB) program review from June 2006 to July 2007 because of a delay in the funding of the lead ship (CVN-78). There were no cost changes reported.

DD(X)—The SAR was submitted to report schedule slips of seven months in the decision to approve System Development and Demonstration (Milestone B) and nine months in the Lead Ship Award date. The Milestone B is currently scheduled for November 2005, and the Lead Ship Award date is planned for January 2006. Both events slipped because of continuing resolution of the DD(X) acquisition strategy. There were no cost changes reported.

H-1 Upgrades—The SAR was submitted to report a schedule slip of eight months (from January 2006 to September 2006) in the completion of Operational Evaluation (OPEVAL) Testing. This slip was due to delays in completing aircraft block modifications and Helmet Mounted System Display (HMSD) issues. Incremental improvements to the HMSD are being made to address the issues. Program costs increased $28.3 million (+0.4 percent) from $8,004.5 million to $8,032.8 million, as a result primarily of an increase in RDT&E for studies and analyses (+$10.8 million) and additional procurement funds for UH-1Y government furnished equipment and recurring costs (+$17.5 million).

LHD 1—This is the final SAR for the LHD 1 since it is more than 90 percent expended. The program began in 1981 and has now delivered six of seven ships to date. The final ship, LHD-8, is under construction and is scheduled to be delivered in July 2007. Program costs decreased $49.9 million (-0.5 percent) from $10,001.2 million to $9,951.3 million, due primarily to revised actual costs.

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F/A-22—The SAR was submitted to rebaseline from a development to a production estimate following the April 2005 approval of Full Rate Production (Milestone III). There were no cost changes reported.
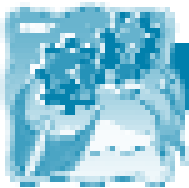
NPOESS (National Polar-Orbiting Operational Environmental Satellite System)—The SAR was submitted to report an increase in the Average Procurement Unit Cost Program (APUC) of 15 percent or more (Nunn-McCurdy unit cost breach). Congress was notified September 28, 2005, of the breach. Program costs increased $1,485.2 million (+21.8 percent) from $6,800.0 million to $8,285.2 million, due primarily to technical issues arising during the engineering and manufacturing development portion of the program. The NPOESS Tri-Agency Executive Committee (EXCOM) has directed that an Independent Program Assessment team review the program and provide recommendations for replanning options. The EXCOM is expected to approve a restructure of the program during December 2005.

SBIRS (Space Based Infrared System) High—The SAR was submitted to report increases in the Program Acquisition Unit Cost and Average Procurement Unit Cost of 15 percent or more (Nunn-McCurdy unit cost breach). Program costs increased $1,024.8 million (+10.7 percent) from $9,613.3 million to $10,638.1 million, due primarily to a revised estimate of development and production costs and the addition of program office operating costs to complete production of GEO 3-5.

WGS (Wideband Gapfiller Satellites)—The SAR was submitted to report schedule slips of six months or more. The Initial Operational Capability (IOC) slipped from May 2007 to March 2009, and Full Operational Capability (FOC) has been revised to a "to be determined" date, pending a review of satellites 4 and 5 cost and schedule. The schedule slips were due to a fastener problem in the manufacturing process reported by the contractor (Boeing). The need to go back and replace the fasteners pushed back the launch date, thus affecting the IOC and FOC dates. Program costs decreased $22.3 million (-1.2

percent) from $1,837.4 million to $1,815.1 million due primarily to a reduction to fund higher priority programs.

New SARs (As of September 30, 2005)
The Department of Defense has submitted initial SARs for two new programs. These reports do not represent cost growth. Baselines established on these programs will be the point from which future changes will be measured. The current cost estimates are shown in the sidebar to the left.

U.S. TRANSPORTATION COMMAND NEWS SERVICE (NOV. 23, 2005)
NEW CARGO PALLET WILL SAVE U.S. MILITARY $1.3 MILLION

Bob Fehringer

SCOTT AIR FORCE BASE, Ill.—A large shipment of merchandise sits near a loading dock behind the United States Transportation Command on Scott Air Force Base, Ill. What makes this shipment different from those normally received by government agencies around the world every day, is that shipment appears to be piled on a pallet, which is also on a pallet.
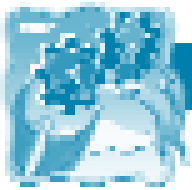
Another federal faux pas?

No, this pallet sandwich is really a new cost-saving shipping system developed for USTRANSCOM, the command responsible for moving all things military.

Called the Associate Intermodal Platform (AIP), the system consists of an 82-inch by 10-inch by 8-inch rectangle of a linear low-density hexane copolymer, which resembles a large black waffle. Cargo is loaded and tied down on the AIP and then the whole package is loaded onto the familiar silver 463L pallet. The resulting package is then ready to load for shipment.

Once in theater, the AIP, with cargo and netting attached, is off-loaded and sent to the final destination, while the 463L remains. The AIP can also be used to transport cargo with ISO containers, or alone.

According to USTRANSCOM Transportation Specialist David Blackford, this apparent redundancy was deemed necessary by transportation officials. "Because of combatant command requirements during contingencies and relief efforts, we send our 463L pallets and nets to the final destination (factory to foxhole)," Blackford said. "The 463L equipment either doesn't get returned to the Defense Transportation System, or personnel use them

statement of work, and awarded the contract to Thermodynamics in June 2005.

"We received our first 120 AIP pallet and net sets at the end of September 2005," Blackford added. "We are currently developing the plan to operationally test the AIP at the Red River Army Depot in Texarkana, Texas."

Fehringer is a contractor with U.S. Transportation Command Public Affairs, Scott AFB, Ill.

AIR FORCE PRINT NEWS (DEC. 1, 2005)
NEW TECHNOLOGIES TACKLE LANDING CHALLENGES

Laura L. Lundin

WRIGHT-PATTERSON AIR FORCE BASE, Ohio (AFPN)—The Air Force Research Laboratory is demonstrating technologies that will allow Air Force transport aircraft to land in a range of environmental conditions—anytime and anywhere.

The lab's Air Vehicles, Human Effectiveness, and Sensors directorates here are working with three technologies that, when combined, will help Air Mobility Command pilots to land in remote and austere weather and field conditions.

for purposes not intended and, therefore, they get damaged."

The silver slabs may make superb floors for tents in the field, but this type of misdirection of pallets can add up to a huge expense for the government.

"The 463L pallet and net system cost $1,700 per set and the [proposed] cost of the AIP system is $400," Blackford said. "This equates to a $1.3 million cost avoidance per 1,000 pallets sent to the theater. We send several thousand pallets to theater per month. We created the AIP to keep the 463L assets in the DTS [Defense Transportation System] and still meet the COCOM requirements for unitized cargo loads."

While the current prototypes of the AIP system cost $970 each, the actual production cost will be $400 for the system, which has been in development for more than two years.

"We birthed the concept in October 2003," Blackford said. "We developed the requirements document, applied for Transportation Technology funds, wrote the

The directorates are working collaboratively to demonstrate the Autonomous Approach and Landing Capability, or AALC. This will be in conjunction with BAE Systems Platform Solutions, and the Opportune Landing System (OLS) in conjunction with Boeing Phantom Works and the U.S. Army's Cold Regions Research Engineering Laboratory, Hanover, N.H.

In a perfect situation, pilots generally have no trouble seeing the runway. But when they fly into low-visibility conditions like fog, rain, snow and blowing sand, pilots have difficulty making a safe approach and landing without ground-based navigation aids.

That's where AALC—a sensor-based, head-up display system—comes into play. It provides pilots a clear image of the runway to allow safe landings.

Using baseline technology developed by MBDA U.K. Ltd., a HUD (Heads Up Display) developed by BAE Systems U.K., and image processing and fusion developed by BAE Platform Solutions U.S., the objects the imaging
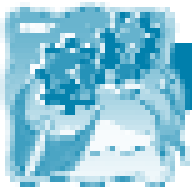
radar picks up generate a near real-time video image. This will be enhanced to appear as if the pilot were landing in daytime on a typical visual approach. The video will appear on the HUD screen and allow the pilot to guide the aircraft in for landing.

OLS will help pilots land in austere locations. The system will analyze satellite imagery to determine an area's suitability for landing operations by looking at length, width, and flatness of the area as well as potential obstructions and standing water. Additionally, OLS determines soil type and moisture content to estimate the strength of the area.

"When you add these two programs together, you have the capability to penetrate the weather and battlefield obscurants, so you can go anytime. And OLS will allow landing capabilities anywhere," said James McDowell, the AALC program manager.

"Today, pilots can land in severe weather conditions—but not without an extensive and well-maintained infrastructure in place," McDowell said.

For military operations, this necessary infrastructure leads to constraints on the mission by narrowing the landing options, costing the military time and money, he said.

However, the AALC system operates independently of ground-based navigation aids. OLS is a pre-mission planning analysis tool that provides information about potential landing sites. This independence increases operational capabilities.

"Currently, air transport crews are being denied clearance for missions if the weather is bad enough and there is no instrument-landing capability at the destination," McDowell said. "So, getting AALC's capabilities demonstrated is a high priority."

Gary Machovina, principal writer of the AALC concept of operations, said AMC identified a deficiency in mobility operations in Bosnia during 1995 and 1996. The constraints led to delays in deploying and supplying troops in the theater of operations.

"The missions then and now are limited to those areas that can support landings using ground-based navigation aids," said Machovina, who is with the command's long-range planning section at Scott Air Force Base, Ill.

"AALC looks very promising and has the potential of opening up the possibilities for operations significantly," he said.

The technology is a "true game-changer," said Douglas Zimmer, deputy program manager with the Human Effectiveness Directorate. "With AALC providing the pilot with adequate imagery and the dependence on airport infrastructure gone, mobility assets will be free to operate under a majority of atmospheric conditions related to extreme low visibility," he said.

Presently, AALC works by using a two-dimensional wave-imaging radar system, infrared camera, and fusion and processing algorithms that combine the best qualities of each sensor. The pilot then sees a two-dimensional view of the fused sensor image of the runway.

Therefore, if an obstacle like a tree was in an aircraft's path, it would appear only as a shadow or a spot on the display. It would not allow the pilot to determine the height threat of the object, which poses a significant safety hazard.
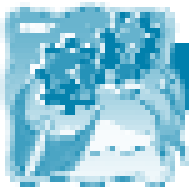
To address this limitation, the Sensors Directorate is working to modify the system to feature a three-dimensional view. The 3-D radar will display the height of obstacles or terrain in the path of the aircraft, which makes pilots more aware of landing situations.

"The three-dimensional radar is primarily designed to address two issues: providing a safe approach by identifying intervening terrain or obstacles on the final approach and providing information about potential hazards or runway incursions," said Air Force Maj. John Koger, a program manager.

McDowell said AALC is scheduled for flight test demonstration aboard a C-130H at Edwards AFB, Calif.—beginning with the 2-D radar—between October 2006 and February 2007.

Plans are for AMC to receive the technology during fiscal 2010.

Engineers are scheduled to flight test the completed 3-D modifications in late spring to early summer of 2007. McDowell said the primary focus will be on the radar's ability to identify obstacles or terrain at the correct location and height on final approach.

Zimmer said, "From what I have seen thus far, the proposed technologies are impressive. The true test will come during our demonstration when the sensors are stressed in actual weather conditions."

Lundin is with Air Force Research Laboratory Public Affairs, Wright-Patterson AFB, Ohio.

AIR FORCE PRINT NEWS (DEC. 8, 2005)
PRODUCT CENTER FINISHES $250 MILLION COMMUNICATIONS PROGRAM
1st Lt. Stephen Fox, USAF

HANSCOM AIR FORCE BASE, Mass. (AFPN)—The Global Information Grid Systems Group installed an emergency communications system at Minot Air Force Base, N.D, the last of 50 identical systems of a more than $250 million program.

The Minuteman Minimum Essential Emergency Communications Network Program—which began more than seven years ago—replaces Legacy Emergency Communication Systems at 20th Air Force Minuteman III launch control centers. There are also centers at Malmstrom AFB, Mont., and F.E. Warren AFB, Wyo.

The systems are designed to receive emergency action messages from the National Command Authority in the event of a nuclear strike against the United States.

"This upgraded system is a vital link between the NCA—the president and defense secretary—and the Minuteman III missile crews in the field," said Air Force Lt. Col. Bryan Bagley, director of emergency communications. "It provides the warfighter a communications system that is faster, more secure and dependable than before."

The new system replaces one with outdated components that were pieced together, not optimally located, and certainly not integrated, said Air Force 1st Lt. John Gould, program manager.

The new system provides a single interoperable terminal with reliable, redundant, and secure radio and MILSTAR satellite communication links to Minuteman III intercontinental ballistic missile forces. It replaces 1970-era radio links with an extra high frequency satellite radio. It also upgraded the very low frequency radio links.

The new system was designed to function even in the case of an electromagnetic pulse and radiation following a nuclear blast, Gould said.

"A nuclear strike could knock out nearly all forms of conventional communication. Radio, telephone, Internet, and satellite communications would all be affected," the lieutenant said. "It's imperative that links from the National Command Authority to the warfighter not be broken.

"This program ensures that important link is maintained," he said.

Each installation was completed in two phases. The first phase, the above-ground equipment at missile alert facilities, included an EHF antenna encased in a 40,000-pound reinforced steel shelter on top of a 60,000-pound concrete foundation. The second phase replaced cables to the existing VLF antenna and the communications equipment in the underground launch control center.

The new system is more robust than the previous system, Gould said.

"The EHF communications network, with a topside antenna encased in a steel shelter, is designed to withstand a nearby nuclear blast," the lieutenant said. "The VLF network, with its antenna buried underground, can survive a direct nuclear strike."

The reliability of the new system far exceeds the Air Force standard. The EHF radio is nearly 300 percent more reliable than the accepted standard. The VLF network exceeds the bar by more than 2,200 percent, Gould said.

The program also fielded 31 systems in training facilities and five in test facilities. Work is under way on a $50 million contract to provide system spares and depot maintenance and repair through at least 2010.
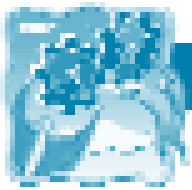
"This program has ensured the United States' ability to rapidly respond to strategic threats for years to come," Bagley said. "I am very proud to be a part of this team whose dedication, hard work, and professionalism over the last seven years ensured the successful delivery of combat capability to the field."

Fox is with Electronic Systems Center Public Affairs, Hanscom AFB, Mass.

AIR FORCE PRINT NEWS (DEC. 15, 2005)
F-22A RAPTOR GOES OPERATIONAL

LANGLEY AIR FORCE BASE, Va. (AFPN) -- The F-22A Raptor—Air Force's most advanced weapon

system—is ready for combat, Air Force officials announced here today.

In reaching initial operational capability, the Raptor is certified ready for operational use.

The first combat-ready Raptors are flying with the 27th Fighter Squadron of the 1st Fighter Wing here. The squadron's deployment capability is a 12-ship package designed to execute air-to-air and air-to-ground missions.
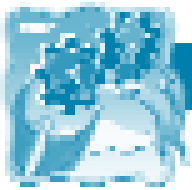
"If we go to war tomorrow, the Raptor will go with us," said Gen. Ronald E. Keys, commander of Air Combat Command.

Declaring the transformational stealth fighter "IOC" means the Raptor's proven capabilities are available for combat and supported by a properly trained and equipped force.

It also means the aircraft is qualified to fly homeland defense missions.

"F-22A IOC means our warfighters now have an unprecedented lethal mix of air-to-air and air-to-ground capabilities at their disposal," Keys said. "The Raptor's cutting edge technology brings us continued joint air dominance despite advancing enemy threats."

Reaching the IOC milestone culminates a collaborative 25-year effort between various Air Force organizations and industry partners. The road to the IOC included was a step-by-step process. The F-22A System Program Office first turned Air Force requirements into a successful acquisition program. Then there was developmental flight test and evaluation, simulation, and ground testing at Edwards Air Force Base, Calif., and Eglin AFB, Fla. There was engine testing at Arnold AFB, Tenn., and missile testing at Holloman AFB, N.M., and over the Pacific Test Range. There were also tactics development at Nellis

AFB, Nev., pilot and maintenance training at Tyndall AFB, Fla., and deployability at Langley.

"The F-22A fulfills a long quest to bring fifth-generation capabilities of stealth, supercruise, and precision to the warfighter today and 30 years from today," Keys said. "Now that we have met our first promised milestone of a fully capable, multi-mission platform ready for combat, we are already focused on furthering our integrated tactics development, refining our deployabilty, and growing and training our force."

The general said, "To add to what we learned on our successful first operational deployment to the Utah Test and Training Range to drop JDAMs [joint direct attack munitions], fly against double-digit SAMs [surface-to-air missiles] at Nellis and work [close air support] with F-16 FAC-As, we will conduct our first routine peacetime exercise deployment by taking 12 Raptors to Alaska in June for Northern Edge."

Designed to ensure America's air dominance for years to come, the F-22A will ensure U.S. joint forces' freedom from attack and freedom to attack, even as adversaries continue to advance their weapons and technologies, officials said.

"As I told [Air Force Chief of Staff] Gen. [T. Michael] Moseley, he and I have spent our lifetime executing, instructing, and providing air dominance for the joint force. Lamentably, we have never been privileged to hold a weapon like this in our hands," Keys said.

"After reviewing our test results—seeing our operational deployment performance and talking to the pilots that will go to war with it—I am confident the F-22A joins the combat force at a far more mature and capable level than any of our previous great aircraft, and will take its rightful place in a long line of U.S. Air Force legends of the air," he finished.

NAVY NEWSSTAND (DEC. 14, 2005)
ROVER SYSTEM REVOLUTIONIZES F-14'S GROUND SUPPORT CAPABILITY

ABOARD *USS THEODORE ROOSEVELT* (NNS)—As F-14 Tomcat aircraft 207 of the "Blacklions" of Fighter Squadron (VF) 213 launched the morning of Dec. 11, history was made.

For the first time, a forward ground controller, with the call sign of "Antidote," located on the ground near Bagh-dad, was invited "into" the cockpit of the aircraft via the Remotely Operated Video Enhanced Receiver (ROVER) system.

"The new system allows forward ground controllers to see what the aircraft is seeing in real time," said Lt. j.g. Will Parish, radar interceptor officer. "There is no time delay in the system."

ROVER allowed Antidote to see real-time images acquired by the aircraft's sensors by transmitting the images to his laptop. Usage of ROVER greatly improved Antidote's reconnaissance and target identification, which are essential to the combat air support mission in Iraq.

The development team arrived aboard *USS Theodore Roosevelt* (CVN 71) Dec. 10 to install the first ROVER systems onto the Tomcats. The squadron maintainers are quickly learning the modification process, providing both VF-213 and VF-31 with complete ROVER capability within a few days.
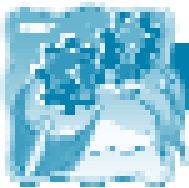
ROVER upgrades to Carrier Air Wing 8 Tomcats will more than double the number of aircraft flying Operation Iraqi Freedom missions with this unique capability.

Before ROVER capability, ground controllers had to rely on "visual talk-ons" to hunt for IEDs, track insurgents, or follow suspicious vehicles. The ground controller would have a map he used to guide the pilots where they needed to go.

"The ground controllers are excited because it eliminates talk-ons," said Parish. "It gives them a lot more confidence when making decisions such as dropping bombs, because they have the same real-time bird's eye view as [the pilots] do."

A joint VF-31/VF-213 investigation revealed that it would be possible to modify the F-14D Tomcat with off-the-shelf technology for a mere $800 per aircraft.

A team of F-14D experts from the PMA-241 staff at Naval Air Station Paxtuxent River, Md., was presented with this idea in early November, and was able to research, develop, and field this technology within a six-week window. Grumman employees from Naval Air Station Oceana and members of the fleet support team from Naval Air Systems Command Depot (NADEP) Jacksonville were assembled to perform the aircraft modification.

"Technology makes us more viable because we have a tool other platforms don't have," said Parish. "ROVER gives us the advantage because ground controllers now prefer us."

NAVY NEWSSTAND (DEC. 13, 2005)
SHADOWHAWKS OVERCOME CHALLENGES, ESTABLISH LAND-BASED PROWLER PRESENCE IN IRAQ

Journalist 2nd Class Stephen Murphy, USN • Photographer's Mate 2nd Class Matthew Bash, USN

ABOARD *USS THEODORE ROOSEVELT* (NNS)— During their current deployment with *USS Theodore Roosevelt* (CVN 71), the Shadowhawks of Carrier Air Wing (CVW) 8's Electronic Attack Squadron (VAQ) 141 have overcome many challenges in establishing themselves as the first Navy Prowler squadron to set up operations at Al Asad Air Base, Iraq. The electronic warfare capabilities of the Shadowhawks' EA-6B Prowlers are enhancing the efforts of Marine Electronic Attack Squadron (VMAQ) 1 to provide aerial support for U.S. Marine Corps ground forces in Iraq.

The Shadowhawks were first called upon to establish a long-term presence in Iraq Sept. 17. Just days into the deployment, personnel from VAQ-141—13 officers and 49 enlisted—departed TR while the ship was anchored for a port visit to Palma De Mallorca, Spain, for a three-week deployment to Al Asad.

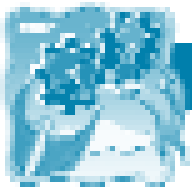The Shadowhawks quickly learned that they would have to overcome several challenges presented by their new temporary home. The work facilities had limited electrical access and were without telephone or computer hookups. "We expected the conditions to be as we found them, and it didn't really matter to us [at the time] because we knew we would only be there for three weeks," said VAQ-141 Command Master Chief (AW/SW) Mark Curley.

With help of the Marines of VMAQ-1, who provided communications equipment and helped with maintenance needs, the Shadowhawks were able to get their Prowlers in the air. By mission's end, VAQ-141 had conducted 37 combat sorties, with a total of 165 hours of flight time.

Shortly after returning to TR the Shadowhawks learned that what they thought would be a one-time experience was about to turn into a long-term presence. The decision was made to send VAQ 141 personnel back to Al Asad, this time for an indefinite period of time.

"Being the first Navy Prowler squadron to set up a permanent operational presence in Al Asad presented challenges that were unforeseen," Curley said. "It became apparent that we had our work cut out for us."

The new prospect of a land-based deployment that would last several weeks placed the Shadowhawks in a situation where they would have to find resources needed to build a detachment that could be almost completely self-sufficient for an unknown amount of time. Uunexpected challenges for VAQ 141 arose from the need for a building to operate from; the ability to communicate within Al Asad and back to TR; the need for vehicles, sleeping

quarters, work spaces, offices; and, more important, the capability to perform proper maintenance operations.

"It was almost like a homeport change because you are basically going to a base where they aren't quite set up to accommodate you," said Aviation Structural Mechanic (Equipment) 1st Class Richard Peterson.

"We had to go ahead and actually build a presence there completely from scratch," Curley said. "We had to find these items, and in a war zone you aren't going to find this stuff just sitting around."

Once again the Shadowhawks sought the support of VMAQ-1, but this time the crew was hoping to establish a solid and lasting presence not only for themselves, but also for the sake of any future Navy squadrons deploying to Al Asad. The first step was to learn how to work within the Marine Corps supply system, and VMAQ-1 was there to assist. Once VAQ-141 personnel gained a better understanding of how the supply system worked, it became much easier to locate and receive needed supplies.

"We developed a good working relationship with VMAQ-1," Curley said. "We were able to help each other out with parts and technical support if necessary."

The Shadowhawks found the answer to their communication needs when they made contact with Marine Air Group (MAG) 26. It was through MAG-26 that VAQ-141 was able to obtain UHF and VHF radios, and necessary telephone and computer hook ups. In only a few short weeks, VAQ-141 went from having an open-bay hangar with no shops and only a 12-foot by 10-foot operations space, to having seven well-lit and -heated maintenance spaces with parts storage, an operations space with five office spaces, a ready room, and an established communications system.

"With all that we have learned—from the combat operations and tactics our aircrew and aircraft employ from Al Asad Air Base, to the logistics involved with working, operating, and living in an expeditionary combat environment—we have built a set of standard operating procedures for any Navy VAQ squadron that deploys into Al Asad after we leave near the end of TR's deployment," said Curley.

"I couldn't be more proud of all of the Shadowhawk sailors," said Cmdr. Craig Clapperton, VAQ 141 executive officer. "This was a total team effort from our sailors in the detachment and our sailors on the carrier. Our
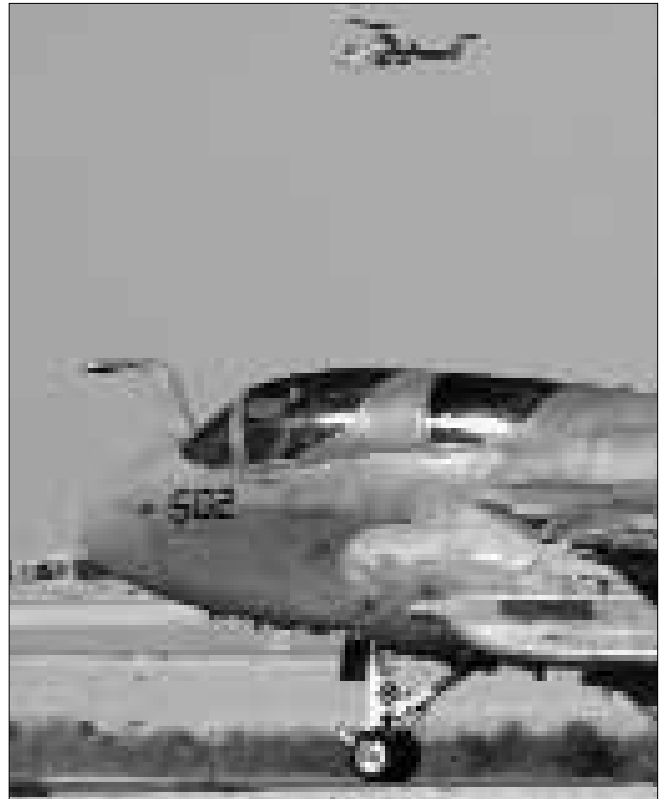
Al Asad, Iraq (Nov. 14, 2005)—An EA-6B Prowler, assigned to the Shadowhawks of Electronic Attack Squadron One Four One (VAQ-141), taxis down the runway at the Al Asad Air Base. A detachment of the Shadowhawks is stationed at Al Asad flying missions in support of the global war on terrorism. VAQ-141 is assigned to Carrier Air Wing Eight (CVW-8), currently embarked aboard *USS Theodore Roosevelt* (CVN 71). *U.S. Navy photo by Photographer's Mate 3rd Class Randall Damm, USN.*

sailors showed determination, persistence, and a great deal of ingenuity. They built all of this from scratch, and they accomplished all of this while executing more than 500 flight hours and 100 combat sorties."

Al Asad Air Base is home to 12,000 servicemembers who are a mix from each of the U.S. military branches. The base is centrally located in Iraq, allowing for readily available air support with nearly every type of U.S. military aircraft in existence.

Murphy and Bash are with USS Theodore Roosevelt *Public Affairs.*

Spotlight on DAU Learning Resources

DEFENSE ACQUISITION UNIVERSITY STRATEGIC PARTNER
UNIVERSITY OF TENNESSEE OFFERS PROGRAMS IN SUPPLY CHAIN MANAGEMENT, LOGISTICS, AND PERFORMANCE BASED LOGISTICS

Jump start your supply chain competitive advantage for 2006. Participate in the University of Tennessee's supply chain management and logistics programs—internationally ranked in *Supply Chain Management Review*, *U.S. News & World Report*, and *Journal of Business Logistics*.

UT offers a comprehensive portfolio of profit-maximizing supply chain and logistics opportunities:

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If you or someone in your organization could benefit from UT's programming, contact Bric A. Wheeler, Center for Executive Education, University of Tennessee, at (865) 974-5001 or visit the university's Web site at <http://SupplyChain.utk.edu/CE411 >.

UNIVERSITY OF TENNESSEE
NEW EXECUTIVE EDUCATION COURSE—GLOBAL SOURCING

Global sourcing is a business strategy that many U.S. companies are exploring. Making decisions about sourcing work abroad is more than just about savings on the balance sheet. "Getting Global Sourcing Right" is for managers and staff from supply chain, purchasing, operations, sourcing, Lean, process improvement, and anyone else interested in practical how-to advice on the best practices for planning and executing a global sourcing strategy.

UT's new global sourcing course is an especially good fit for firms pursuing Lean, six sigma, or supply chain management as cornerstones of their competitive advantage. Details are available online from the UT Center for Executive Education at <http://thecenter.utk.edu/programs/global-sourcing.html >.

SOUTHERN METHODIST UNIVERSITY PARTNERS WITH DEFENSE ACQUISITION UNIVERSITY

Systems Engineering is one of the fastest growing technical disciplines worldwide, and a degree in systems engineering will help keep you on the cutting edge of technological advances taking place in DoD and industry. The Defense Acquisition University has now partnered with the prestigious School of Engineering at Southern Methodist University (SMU) in Dallas, Texas, to offer DoD employees reduced tuition toward a master's degree in systems engineering.
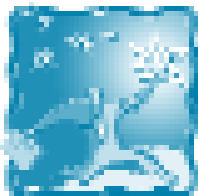
Besides on-campus course delivery, SMU offers convenient course delivery alternatives such as off-campus anytime/anywhere instruction on DVD; on-site instruction at industry/government facilities; and video conferencing. To learn more about the systems engineering program at SMU, visit their Web site at <http://engr.smu.edu/emis/sys/ > or contact the program director, Dr. Jerrell Stracener, at jerrell@engr.smu.edu. Questions pertaining to tuition should be directed to Jim Dees, director of enrollment management, at jdees@engr.smu.edu.

HARVARD BUSINESS SCHOOL PARTNERS WITH DEFENSE ACQUISITION UNIVERSITY

In January, the Defense Acquisition University partnered with Harvard Business School Publishing to procure the Harvard Business School ManageMentor modules. These 37 HBS modules will strengthen the softskills for the AT&L workforce, select members of the private sector who have attended DAU courses, and for students who receive training through the Federal Acquisition Institute/DAU partnership.

The Harvard ManageMentor modules (listed on the next page) are an easy-to-use online performance support tool that provides information and materials on more than 37 topics fundamental to managerial success. Topics range from running an effective meeting or managing a project to more complex tasks such as negotiating or keeping a team on target. For each topic, practical information is presented using the following methods:

- Core concepts
- Tips and tools
- Action steps
- Resources

HARVARD BUSINESS SCHOOL MANAGE-MENTOR MODULES

HBS 101	Becoming a Manager	HBS 120	Persuading Others
HBS 102	Keeping Teams on Target	HBS 121	Running a Meeting
HBS 103	Leading a Team	HBS 122	Writing for Business
HBS 104	Leading and Motivating	HBS 123	Managing Workplace Stress
HBS 105	Making Business Decisions	HBS 124	Managing Your Career
HBS 106	Budgeting	HBS 125	Managing Your Time
HBS 107	Capitalizing on Change	HBS 126	Working with a Virtual Team
HBS 108	Finance Essentials	HBS 127	Assessing Performance
HBS 109	Focusing on Your Customer	HBS 128	Coaching
HBS 110	Implementing Innovation	HBS 129	Delegating
HBS 111	Implementing Strategy	HBS 130	Dismissing an Employee
HBS 112	Managing Crises	HBS 131	Giving and Receiving Feedback
HBS 113	Managing for Creativity and Innovation	HBS 132	Hiring
HBS 114	Preparing a Business Plan	HBS 133	Laying off Employees
HBS 115	Marketing Essentials	HBS 134	Managing Difficult Interactions
HBS 116	Project Management		
HBS 117	Solving Business Problems	HBS 135	Managing Upward
HBS 118	Making a Presentation	HBS 136	Retaining Valued Employees
HBS 119	Negotiating	HBS 137	Setting Goals

- Test yourself
- Interactive practices
- Exercises focused on questions like "What would you do?" and "Where should you focus?"

The Defense Acquisition University encourages the entire defense acquisition workforce to take advantage of this new training resource. To register, students should go to the Acquisition Training Application System <https://www.atrrs.army.mil/channels/acqtas/ > and log in at the center of the screen. Once logged in, click on the yellow box near the top of the screen that reads "Click Here For Continuous Learning Instructions." By following the instructions provided, students will be able to register for any of the 112 Continuous Learning Modules that DAU currently provides including the 37 new Harvard Business School ManagementMentor classes, all of which are identified by a module number beginning with "HBS."

BOSTON UNIVERSITY AND DEFENSE ACQUISITION UNIVERSITY ENTER INTO STRATEGIC PARTNERSHIP

Teaching professionals how to buy goods and services for the military has long been the focus of the Defense Acquisition University (DAU), which serves 135,000 acquisition professionals. Now students who want more from the DAU curriculum can add Boston University (BU) to their list through two new strategic partnerships.
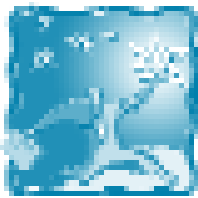
The program began last summer with BU's Metropolitan College (BU MET) offering courses on-site at Hanscom Air Force Base, in Bedford, Mass., where the Air Force Electronic Systems Center and DAU have been participating in a Learning Organization. Originally, the courses were open to military personnel and their dependents, civilian government employees, and defense contractors at the base. Now, however, courses may be taken both in the classroom and online with Boston University.

Two programs are currently offered on base by BU MET: a master of science in business administration (MSBA) and a graduate certificate for acquisition managers. The four-course certificate is applicable toward the MSBA and includes courses on program and project management, negotiation and leadership, as well as a financial component. Both programs are directly applicable to the work of acquisition professionals.

The partnership with BU MET provides an even greater degree of flexibility in the form of a course waiver that allows certain DAU courses to transfer toward either the online graduate certificate in project management or the prestigious online master of science in project management. Both of these programs will be of special interest to military and civilian acquisition management professionals as the design integrates contract management, program management, and financial management. In addition, there is a course waiver toward the classroom-based graduate certificate for acquisition managers.

Also in partnership with DAU, Boston University's Corporate Education Center (BUCEC) offers corporate and professional training and certification programs. The Center provides a variety of non-credit options in project management, business, and technology courses and certification programs, including certificate boot camps for Microsoft (MCSE, MCSA, etc.) and Cisco (CCNA®, CCNP®).

Boston University and the Defense Acquisition University solidified their partnership in a signing ceremony Oct. 4, 2005, attended by Tim Shannon, DAU Capital and Northeast Region Dean; Wayne Glass, DAU Profes-

The Defense Acquisition University and Boston University solidified their partnership in a signing ceremony on Oct. 4. Pictured from left: DAU Boston Office Regional Director Rich Stillman; Dean Tim Shannon, DAU Capital and Northeast Region; Dean Jay Halfond, Boston University Metropolitan College (BU MET); Assistant Dean Judith Marley, BU MET; and Education and Training Director Joseph Solivan, Hanscom AFB, Mass.

Photograph courtesy Boston University.

sor and Program Director for Strategic Partnerships; Jay Halfond, BU MET Dean; John Bonanno, BU Corporate Education Center Dean; Judith Marley, BU MET Assistant Dean; Gary Johnson, Director of Business Development, BU Corporate Education Center; Gerry Keegan, BU Professor; and Joseph Solivan, Director of Education and Training at Hanscom.

For more information on these Boston University programs visit Boston University online at <http://www.bu.edu/met/corporate or http://www.butrain.com/corporate-training-programs/defense-acquisition-university.asp >.

DAU AND NDIA TO SPONSOR DEFENSE SYSTEMS ACQUISITION MANAGEMENT COURSE OFFERINGS FOR INDUSTRY MANAGERS

DAU and the National Defense Industrial Association will sponsor offerings of the Defense Systems Acquisition Management (DSAM) course for interested industry managers at the following locations during fiscal 2006:

■ May 1–5, 2006, U.S. Grant Hotel, San Diego, Calif.
■ July 10–14, 2006, Colorado Springs DoubleTree Hotel and World Arena, Colorado Springs, Colo.

DSAM presents the same acquisition policy information provided to DoD students who attend the Defense Ac-

quisition University courses for acquisition certification training. It is designed to meet the needs of defense industry acquisition managers in today's dynamic environment, providing the latest information related to:

■ Defense acquisition policy for weapons and information technology systems, including discussion of the DoD 5000 series (directive and instruction) and the CJCS 3170 series (instruction and manual)
■ Defense transformation initiatives related to systems acquisition
■ Defense acquisition procedures and processes
■ The planning, programming, budgeting, and execution process and the congressional budget process
■ The relationship between the determination of military capability needs, resource allocation, science and technology activities, and acquisition programs.

For further information see "Courses Offered" under "Meetings and Events" at <http://www.ndia.org >. Industry students contact Phyllis Edmonson at (703) 247-2577 or e-mail pedmonson@ndia.org. A limited number of experienced government students may be selected to attend each offering. Government students must first contact Bruce Moler at (703) 805-5257, or e-mail bruce.moler@dau.mil prior to registering with NDIA.

Online registration is available at: <http://register.ndia.org/interview/register.ndia?#September2005 >.
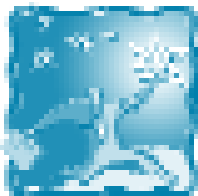
DEFENSE ACQUISITION UNIVERSITY 2006 CATALOG

The 2006 DAU Catalog has been posted at <http://www.dau.mil/catalog>. The version at this Web site is configured as a traditional .pdf file broken down by chapter and appendix as well as the catalog in its entirety.

Those interested may request a catalog on CD or in hardcopy (please specify) by contacting DAU's Student Services Office at student.services@dau.mil (hardcopies are limited to one copy per request). Information in the hardcopy catalog is current as of Oct. 1, 2005. The catalog is updated online periodically throughout the training year, and new CDs are produced with each update. Currency of information contained in hardcopies and CDs should always be confirmed online.

DAU ASSISTS CAL STATE, SAN BERNARDINO, IN DEVELOPING NEW GRADUATE DEGREES FOR AT&L WORKFORCE

Susan Summers

California State University, San Bernardino, will begin offering a media-rich and completely online executive master's in public administration (MPA) program tailored for the acquisition, technology, and logistics workforce next fall. Through funds appropriated by the 108th Congress, the university has been charged to develop several Web-based master's degree programs in public administration, criminal justice, and health administration; the programs are intended to serve Department of Defense employees and designed to ensure that graduates satisfy, at a minimum, requirements for the Defense Acquisition Workforce Improvement Act Level II training certification in program management. The executive master's degree in public administration will begin a pilot test program in spring 2006, with an official program launch scheduled for the fall. Because these programs are not operated through state university funding, they will be available to any qualified person for the same cost, regardless of residency status.

The executive MPA and the degrees to follow are unique in that they are the first of their sort to be developed in close cooperation with the Defense Acquisition University. With DAU's guidance as the project administrator, the executive MPA will be a student-friendly, convenient, yet high-quality pathway toward professional advancement for the AT&L community. The degree represents a coming of age in distance learning and boasts a variety of cutting-edge media enhancements, while incorporating acquisition core competencies that will result in DAWIA Level II certification in program management for graduates.

These degree programs come in response to needs expressed by Department of Defense and Department of the Navy officials to build a workforce that is flexible and agile in the way it manages resources. Above all, the educational priority is to create a learning organization exemplified by analytical, strategic thinkers who are focused on future needs. Given the downsizing of DoD in recent years, the workloads, and the impending retirements, Cal State, San Bernadino's public administration department chair Dr. Montgomery Van Wart anticipates that the online executive MPA and others will play an important role in DoD's succession-management planning. "Quality online instruction is the wave of the future," he says. "I am deeply gratified that we received congressional funding to produce a program that is not only the most technologically advanced, but also the most media-enhanced in the country."

The many media enhancements not only enrich the learning experience, but they cater to various individual learning styles. Courses are presented in modular formats, with features such as streaming audio and video, simulations, and interactive Web pages to facilitate surveys and testing. Program planners adhered to the principles of good practice as set forth by the Western Association of Schools and Colleges, in addition to internally developed quality control measures to ensure consistent outcomes from course to course. A minimum of 120 hours of consultation between instructional designers and each faculty member takes place to adapt courses to Web-based presentation. According to the campus director of distributed learning, Dr. Jim Monaghan, the result is "the best in instructional design and production values. For example, the face-to-face simulations using actors achieve more than text-based approaches ever could. The use of multimedia allows us to tailor content to different learning styles, and research shows that it has a greater impact on learning."
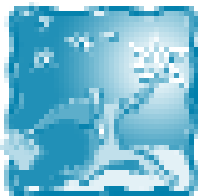
Beyond the technological sophistication, the executive MPA and follow-on graduate programs will embody the same core curriculum as the campus-based residential programs, with elective course customization for the AT&L workforce. They will draw upon the same campus faculty as instructors and will require students to interact with peers and professors for a complete graduate experience. Students will progress through their courses in sequence as cohort groups, enabling a sense of community and national professional networking that will last well beyond graduation.

Cal State, San Bernardino, now celebrating its 40th anniversary, is one of 23 campuses that comprise the largest public university system in the world—the California State University system. Created expressly for working professionals, the executive master's degree in public administration holds prestigious accreditation through the National Association of Schools of Public Administration, and the online degree has recently received full approval by the Western Association of Schools and Colleges, which is the university's regional accrediting body.

For more information on Cal State, San Bernardino's executive MPA program, including admission and curriculum, visit <http://online.csusb.edu> or contact Michael-Anne Barner in the College of Extended Learning: mbarner@csusb.edu or (909) 537-3907.

Summers is associate dean, College of Extended Learning, California State University, San Bernardino.

JCIDS PRESENTATION AVAILABLE ONLINE

On Nov. 30, 2005, the Defense Acquisition University Alumni Association (DAUAA) and the Acquisition Community Connection (ACC) co-sponsored a forum on the Joint Capabilities Integration and Development System (JCIDS). The presentation was given by a member of the Joint Chiefs of Staff J-8. There are no restrictions on the classroom or training use of the presentation slides or the video.

To view a copy of both the PowerPoint presentation and a video-streaming-on-demand of the presentation, go to the Acquisition Community Connection Web site at <https://acc.dau.mil/jcidsbrief>.

DAU'S PERFORMANCE BASED LOGISTICS COURSE KEEPS PACE WITH POLICY AND PRACTICES

LOG 235, the Defense Acquisition University's performance based logistics (PBL) final Level II certification course, has undergone significant revisions in 2005 to keep pace with the dynamic evolution of both PBL policy and actual program implementation practices. PBL was mandated as DoD's "preferred" product support strategy in the 2003 revision of the DoD 5000 Series.

LOG 235 is a hybrid course, with LOG 235A consisting of a 50-hour distance learning course consisting of 17 lessons focusing primarily on PBL concepts and their relationship to and effect on DoD traditional support functions and processes. LOG 235B is a one-week classroom course that uses case studies and exercises to provide students the opportunity to accomplish practical application of the concepts learned in LOG 235A.

In its first iteration, fielded in March 2004, there were few fully implemented PBL programs; consequently, a significant portion of the course continued to focus on the conceptual application of PBL processes. However, over the last year, more than 150 programs have either implemented PBL or are well along in the implementation process. Using this real-world PBL information, approximately 60 percent of the course content has been revised to reflect actual PBL implementation practices.

As a result, LOG 235B is now much more of a practical tools- and skills-based course, providing students tangible knowledge they can readily apply upon returning to the workplace.

WEB-ENABLED INTEGRATED FRAMEWORK CHART

The Web-enabled Version 5.1 of the Integrated Defense Acquisition, Technology and Logistics Life Cycle Management Framework Chart (known as Integrated Framework Chart or IFC) is now available at of the AT&L Knowledge Sharing System (AKSS) Web site at <http://akss.dau.mil/ifc>.

Career Development

DOD PAMPHLET ON MANUFACTURING TECHNOLOGY IMPROVEMENTS FOR WARFIGHTERS

The August 2005 Defense Department *Manufacturing Technology Improvements for Warfighters* pamphlet describes how the DoD ManTech Program "supports the development of a responsive, world-class manufacturing capability to affordably meet the warfighters' needs throughout the defense system life cycle." This 16-page brochure presents an overview of the ManTech Program and clearly demonstrates the contributions and commitment of the program to the development and sustainment of critical military technology.

Download a copy of the pamphlet at <https://www.dodmantech.com/pubs/pubs.asp?main = publink#dodmantechbrochure >.

AIR FORCE PRINT NEWS (OCT. 19, 2005)
PERSONNEL CENTER WILL CONDUCT FORCE SHAPING BOARD

RANDOLPH AIR FORCE BASE, Texas (AFPN)—In an effort to right size and shape its future force, Air Force officials approved an annual board to evaluate officers for continued service at their three-year point. The board will be part of the Service's force management program.

The first Force Shaping Board is scheduled to convene at the Air Force Personnel Center April 3, 2006.

The board will evaluate active duty line officers in the 2002 and 2003 accession year groups—except officers with less than two years' current active service or 15 or more years' active service as of Sept. 29, 2006.

The board's objective is to shape the future force by retaining officers the Air Force needs to develop as future leaders. The board will make its determination based on the information in the officers' central selection record and Retention Recommendation Form.

The central selection record includes:
- Officer selection brief

- Officer performance reports
- Decorations
- Letters of evaluation—permanent change of station students (such as those at intelligence school or attending the Air Force Institute of Technology) will not have a completed an Retention Recommendation Form. Instead, their host wing commander will complete a letter of evaluation outlining the officer's training program and performance
- Letter to the board—board-eligible officers are authorized to submit a letter to the board to provide additional information relevant to the board decision process that is not included in any other documents in the central selection record
- Retention Recommendation Form: The first O-6 or GS-15 in the officer's chain of command will write a nine-line narrative and make a recommendation. The senior rater will review the form and either concur or non-concur with the initial reviewer's recommendation. The senior rater will also provide a mandatory ranking on all officers in their unit by accession year group and Air Force Specialty Code.

A general officer is scheduled to visit nearly every base to further explain the board process and how it fits into the Service's overall force management program. Likewise, they will ensure airmen are aware of the current voluntary separation initiatives.

Air Force leaders had hoped to reduce the line officer corps through a robust voluntary Force Shaping Program. The program continues to offer interested officers the following separation options, which may also include a waiver for recouping education costs:

Voluntary Separation Programs
- Limited Active Duty Service Commitment waivers: This program allows individuals to separate before the expiration of certain active duty service commitments
- Air Force Reserve Palace Chase
- Air National Guard Palace Chase
- Army Blue to Green.

Opportunities exist for airmen to continue to serve their country through federal civilian employment.

On March 1, these voluntary initiatives close to Force Shaping Board-eligible officers as the personnel center

will no longer accept separation applications from these officers.

For more information about the board and volunteer separation opportunities, visit the AFPC Force Shaping Web site at <http://www.afpc.randolph.af.mil/retsep/shape.htm >, or call the Air Force Personnel Contact Center at (800) 616-3775.

UNIQUE IDENTIFICATION (UID) PROGRAM OFFICE DEVELOPS ONLINE TOOL

The Unique Identification (UID) Program Office has developed an online tool to facilitate understanding and implementation of Item Unique Identification (IUID). IUID was developed to streamline the implementation of unique identification technology throughout DoD and its global supply chain. View the new Web site at: <http://www.iuidtoolkit.com/ >.

AIR FORCE PRINT NEWS (NOV. 9, 2005) CHANGES ON HORIZON FOR PME

Staff Sgt. Carla Williams, USAF

MINOT AIR FORCE BASE, N.D. (AFPN)—The Air Force professional military education process has developed grade-related education and education opportunities that support specific jobs for officers.

"On the enlisted side, the Air Force has long had a continuity of PME programs that are associated with rank advancement, but you also have courses based on job and level of responsibility such as the First Sergeant's Academy," said Maj. Gen. Robert J. "Bob" Elder Jr., Air War College commandant and Air University vice commander, during his visit to Minot Air Force Base, N.D. Nov. 3.

"We are now expanding this dual approach—rank and position education—with the officer corps," he said.

Gen. Elder, who commanded the 5th Bomb Wing from 1996 to 1998, said the war college is currently enhancing senior development education courses.

"The new AWC program features an SDE distance-learning course, concentrating on institutional leadership—particularly within the Air Force—for all upcoming colonels," said the general, who has been the AWC commandant since July 2004. "We also have a resident warfighting course, focused on joint and coalition operations, that will be fully accredited as a joint-PME Phase II course. This means graduates of the warfighting course

will have the PME credit required for assignment as joint-specialty officers."

The SDE courses will now focus on the continued development of strategic leader skills.

"Strategic leader is a widely used term in the business community for top executives who are known for their critical analysis, creative thinking, decision making, and planning skills," said the general. "We're focusing on these executive skills and cross-cultural communication capabilities to ensure Air Force senior leaders have the ability to lead our own people as well as communicate with other Services and coalition forces."

The general, who flew 83 combat hours during operations Enduring Freedom and Iraqi Freedom, sees many PME changes on the horizon.

"We're now spending time focusing on cross-cultural negotiations, not just looking at different countries but also cultural differences between our own military services—changes made essential by the changing nature of war. That's a big shift," he said. "The other big issue is working with other agencies, not only government agencies but also non-government agencies. To aid this, our new courses will spend more time looking at how we bring all instruments of national power together."

He also said PME's focus will shift toward continuous learning, with continuous reinforcement and re-learning of evolving Air Force and joint doctrine.

"We don't want people to think PME is finished once they complete a course—PME is something done throughout one's professional lifetime," he explained. "To enable this, we want to make it easier with something we call booster shots. For example, we envision company grade officers will take a pre-squadron officer school class that will look at Air Force doctrine, personal communication skills, and group and team leadership dynamics."

Williams is with the 5th Bomb Wing Public Affairs, Minot AFB, N.D.

DEFENSE ACQUISITION MANAGEMENT INFORMATION RETRIEVAL WEB SITE

The Defense Acquisition Management Information Retrieval (DAMIR) Web site at <http://www.acq.osd.mil/damir/ > is a DoD initiative to provide enterprise visibility to acquisition program information. The primary goal of DAMIR is to streamline acquisition

management and oversight by leveraging the capabilities of a net-centric environment. DAMIR will identify the various data sources the acquisition community uses to manage Major Defense Acquisition Programs (MDAP) and Major Automated Information Systems (MAIS) programs and provide a unified Web-based interface through which to present that information. DAMIR will enable the OSD, Military Services, Congress, and other participating communities to access information relevant to their missions regardless of the agency or where the data resides. As DAMIR evolves, its components will replace the need for the legacy Consolidated Acquisition Reporting System (CARS). The current DAMIR capability consists of two major Web-based components: *Purview* and the *Virtual Library*.

Purview is an executive information system that displays program information such as mission and description, cost, funding, and schedule. It was developed under the DAMIR initiative to provide a comprehensive view of the current state of all MDAP and MAIS programs. Purview is the presentation layer for structured data currently collected in CARS. It will continue to be the solution for structured acquisition data presentation as the DAMIR initiative moves forward, and Web services begin pulling this information directly from the Service acquisition databases.

The Virtual Library is a search tool for unstructured data discovery. Built to meet the acquisition community's requirement for a tool that helps users search through unstructured data, the DAMIR Virtual Library delivers the capability to search through program documentation, such as budget information and acquisition strategies. This information may be stored in various formats, such as Word documents or .PDF files, and in disparate sources, including Oracle databases, file servers, and Web servers.

AMERICAN FORCES PRESS SERVICE (NOV. 30, 2005)
STANDARD FEDERAL ID TO REPLACE COMMON ACCESS CARDS
Sgt. Sara Wood, USA

WASHINGTON (AFPN)—A new, standardized identification card is being developed for all federal employees.

The new card will replace the common access cards that military personnel, government civilians. and contractors now hold, said Mary Dixon, deputy director of the Defense Manpower Data Center.

The new cards will look much the same as CACs, with a few changes, Dixon said. The color scheme will be different and more information will be embedded in the card, she said.

The added information will be a biometric of two fingerprints, to be used for identification purposes, and a string of numbers that will allow physical access to buildings, Dixon said.

The biggest change will be the addition of wireless technology, which will allow the cards to be read by a machine from a short distance away, Dixon said. This will make the new cards much easier to use for access to buildings than CACs, which must be swiped through a reader, she said.

The new cards themselves will not be enough to grant access to all federal buildings, Dixon said. Rather, they will be checked against each building's database to determine if an individual has access.

A prototype of the new card is being developed and will be finalized in the next couple of months, Dixon said. The cards will be issued starting in October 2006 to all military personnel, government civilians, and qualified contractors. In the Defense Department, all employees should have the new cards within three-and-a-half years, she said. A timeline has not been set for the rest of the federal government.

Wood is with the American Forces Press Service.

AIR FORCE MATERIEL COMMAND NEWS SERVICE (DEC. 14, 2005)
LEAVING THE AIR FORCE? CONSIDER CIVILIAN GOVERNMENT EMPLOYMENT
1st Lt. Martha L. Petersante-Gioia, USAF

HANSCOM AIR FORCE BASE, Mass. (AFPN)—For those facing force shaping boards and contemplating the possibility of separating from the Air Force, employment options can seem overwhelming.

However, the members of civilian personnel offices are ready to help military members transition to government civilian employment.

People may apply for a civilian position 120 days before separation, said Paula MacKenzie, a human resource officer with the 66th Air Base Wing civilian personnel office at Hanscom. Normally, it takes between 60 and 90 days to receive notification after applying for a civilian

position and, if selected, from 30 to 45 days until an applicant can start working.

Military time does count, she said. "It is put towards work experience and may be used for leave accrual or retirement."

Those who recently separated or retired may be eligible for veteran's preference when applying. Point values range from five to 10 points. Disabled veterans are eligible for up to 10 points. Veterans discharged with an honorable or general discharge who served during a war may claim five points. For a detailed listing of veteran's preferences contact the Veteran's Preference Advisor online at: <http://www.dol.gov/elaws/vetspref.htm > for more information. Disabled veteran's counseling is also available from AMVETS.

Applying for a civilian position can be broken into three steps: submit a résumé, search job postings, and self-nominate.

Résumés can be submitted to the Air Force Personnel Center in one of three ways: through Résumé Writer, the online résumé writer; e-mail; or mail.

Submitting through Résumé Writer is the preferred method, states the Air Force Personnel Center's Civilian Employment Application Guide job kit. It is posted online at <http://www.afpc.randolph.af.mil >. This method allows users to post a résumé and have it processed into the personnel system within 24 hours. It also allows users to edit and review résumés at any time. Résumés remain active in the system for one year.

Résumés that are e-mailed or mailed can take up to five days to process. Résumés can be e-mailed to Ext. Resume@randolph.af.mil for all external applicants (those not working in a civilian position).

"Applicant Information" must be in the subject line of the e-mail, and résumés should not be sent as an attachment. Applicants cannot review, print, or update their résumés when using this method.

The next step is to search for a job. Federal jobs are posted on a variety of Web sites. AFPC links to various Air Force postings and also to <http://www.usajob.opm.gov >. This site hosts various federal jobs all over the world. The personnel center also offers the Civilian Announcement Notification System, or CANS.

CANS is an e-mail service where users receive notification of Air Force civilian job openings meeting their criteria. Information will be stored in the system for up to 180 days and users may use up to 20 criteria combinations.

After finding a job and making sure that all supplemental data and a résumé are active in the system, self-nomination is the next step. There are two ways applicants may self-nominate: online at the AFPC Civilian Employment home page or over the AF Job Line at (800) 616-3775. Applicants must have their Social Security number, a personal identification number, and the 11-digit job announcement code when self-nominating via the job line.

AFPC offers this tip: Be sure to see the self-nomination confirmation before exiting the Web site. If people do not see a confirmation, the self-nomination was not completed. Applicants should print a copy of the confirmation.

After completing the process, applicants can log on to the AFPC Web site or call the job line to check on a self-nomination.

Here are some additional tips:
- Those who want to self-nominate and update a résumé on file should self-nominate first before updating the résumé because applicants cannot self-nominate while a résumé is being updated.
- External candidates whose résumés have expired and were submitted through Résumé Writer can access the AFPC Web site and select the Résumé Writer menu option. Click on "Update Résumé" and make any necessary changes; then click "Submit." The system requires 24 hours to refresh before the résumé flows into the AFPC Resumix data system. Once the résumé has entered the system, applicants can self-nominate for vacancies.

Other supporting documents may need to be provided before an official job offer can be made.

"Transcripts, Defense Department Form 214 (Statement of Service), and applicable licenses or certifications should be submitted in a timely fashion as required by the position," MacKenzie said.

Applicants should keep track of the job close-out date and keep that in mind when applying. Also, applicants

need to fill out the knowledge, skills, and abilities section of a job, where required.

Petersante-Gioia is with 66th Air Base Wing Public Affairs, Hanscom AFB, Mass.

ARMY NEWS RELEASE (DEC. 15, 2005)
ARMY UPDATES MANAGEMENT OF COLONELS

As the Army transforms to meet new challenges, it is also transforming the personnel management of senior military officers. In January 2006, the Army will form a single organization known as Senior Leader Development (SLD) to manage colonels and general officers.

The new organization will form around two existing organizations: General Officer Management Office (GOMO) that assists Army leadership with developing, assigning, and managing Army general officers, and Human Resources Command's Colonels Division. The result is that both colonels and promotable lieutenant colonels will be added to the group of senior military leaders managed directly by the Secretary of the Army and the Chief of Staff of the Army.

"Senior Leader Development provides us with a unique opportunity to fully leverage and better apportion the inherent talents, experiences, and leadership skills of a combined force of senior leaders," said Gen. Peter J. Schoomaker, Chief of Staff of the Army. "The national security environment demands more from our senior military leaders than ever before."

Senior officers will work with the new organization to synchronize their development plans with Army requirements in order to better focus their continuing contributions to the nation. According to the forthcoming director, Col. Mike Harris, "While fewer than 3 percent of Army colonels are selected for promotion to brigadier general each year, 100 percent of them will continue to contribute to the defense of our nation. Therefore, it is important that the Army continue to develop its colonels, whether for utilization in a colonel position or with anticipation towards a general officer position."

SLD provides the Army with a unique opportunity to take advantage of a combined force of Army senior leaders. By further developing and closely managing senior officers "together at the top," the Army is sending a clear message to its colonels that they are a valued element of the Army's strategic leadership.

Media seeking more information about the Senior Leader Development office should contact Lt. Col Pamela Hart at (703) 697-5662 or Maj. Elizabeth Robbins at (703) 697-5343.

COMMANDER, NAVAL SURFACE FORCES PUBLIC AFFAIRS (DEC. 18, 2005)
NAVAL SURFACE FORCES TO INSTITUTE XO/CO FLEET-UP IN 2006

SAN DIEGO (NNS)—Commander, Naval Surface Forces has announced the implementation of "Executive Officer to Commanding Officer Fleet-Up" on its surface ships and sea staffs beginning in calendar year 2006, with the majority of changes coming in 2008 and 2009.
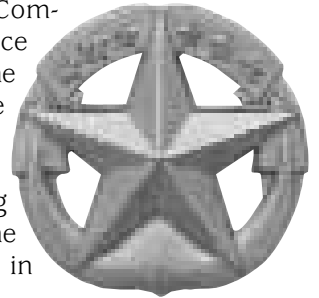
Executive oOfficers (XOs) will serve 18 months and then "fleet up" to commanding officer (CO) for their command tour on the same ship. Additionally, "major command"-screened officers will serve as the executive officer or chief staff officer (deputy warfare commander) and fleet up to the Commanding Officer/Commodore (warfare commander) position.

Vice Adm. Terry Etnyre, commander, Naval Surface Forces, said, "XO/CO Fleet-Up is about command. It provides focused command leadership stability throughout a ship's life. A commanding officer will reap the benefits of the actions and policies he or she institutes as executive officer. He or she will know the crew upon assumption of command and will be intimately familiar with the material condition and the combat readiness of the ship. This improves readiness and will provide an unprecedented level of command leadership stability in our Surface Force."

According to Surface Warfare leadership, the plan will increase flexibility in the surface warfare officer (SWO) career path in order to send more SWOs to Junior and Senior War Colleges, qualify SWOs sooner as joint specialty officers (JSO), send more SWOs to multiple joint tours, ensure command leadership stability on ships and staffs, and increase the proficiency and experience of major warfare commanders.

Etnyre added, "XO/CO Fleet-Up helps us meet SWO requirements by providing a career path that solidifies future progression to command and warfighting expertise

while enabling our officers to complete critical joint tours as we fight the global war on terrorism. Combatant commands, fleet, and joint staffs will also regain critical SWO representation."

The career path for SWOs will change under the plan. The start of an officer's XO tour will move to the right (15.5-year point vice the current 13-year point), and the start of the CO tour will move to left (17 years vice 18 to 18.5 years).

Capt. Tony Kurta, director of Navy Personnel Command's Surface Warfare Division (PERS-41), explained, "Officers in promotion year group (PYG) '05 to lieutenant commander or junior will be XO/CO Fleet-Up officers. PYG-04 officers and senior are conventional career path officers, meaning they will complete traditional XO tours. Some PYG-04 and senior officers will complete a second XO tour as part of the XO/CO Fleet-Up, and some will only complete a CO tour. Neither path is better or preferred. The path will solely depend on an individual officer's timing and the ship to which he or she is slated."

All SWOs are encouraged to attend waterfront briefings commencing in January 2006 outlining how this affects them individually.

More information is also available through the XO/CO Fleet-Up Web site at <http://www.npc.navy.mil/Officer/SurfaceWarfare/HotItems/XOCOFleetUp.htm > or from their SWO detailer.

U.S. ARMY ACQUISITION SUPPORT CENTER (DECEMBER 2005)
CIVILIAN REGIONAL ROTATIONAL DEVELOPMENTAL ASSIGNMENT PROGRAM (C-RDAP)

For years, the Army Acquisition Corps (AAC) has encouraged individuals to broaden their experience and enhance their careers. For the most part, this meant moving functionally, organizationally, and/or geographically. Many were unwilling or unable to take that chance or make that sacrifice. With C-RDAP, it is now possible to make a move without leaving the comfort zone of having the position of record to return to.

C-RDAP has been structured to allow individuals to gain experience in another career field, another organization, or another commodity within the local commuting area.

The Acquisition Support Center now offers the opportunity to develop required acquisition/leadership skills, while at the same time, gaining career-enhancing experience.

The process starts with a memorandum, signed by the local regional director, forwarded to all organizations soliciting potential opportunities for developmental assignments. Once these opportunities have been identified, the regional director sends out a general announcement to the workforce for individuals looking to take advantage of the C-RDAP opportunity.

Those interested must submit an application package, which includes a résumé, Acquisition Career Record Brief, Senior Rater Potential Evaluation, and Individual Development Plan. The individual needs and career-enhancing goals and objectives must be identified. If the individual is board selected, requirements will be matched as closely as possible to a developmental assignment.

The C-RDAP will be introduced throughout all of the regions in the March 2006 timeframe. If you are interested in either part of the program, please watch for the request and announcement or contact your regional acquisition career manager. Additional information on this program will be available in the near future on the Army Acquisition Corps Web site at <http://asc.army.mil >. Select "Portal," followed by "Programs," and then "C-RDAP." For more information, contact Eileen Reichler at eileen.reichler@us.army.mil.

NEW DOD/NACE *CORRDEFENSE* E-MAGAZINE

The U.S. Department of Defense, in collaboration with the National Association of Corrosion Engineers—NACE International—recently launched the first issue of *CorrDefense,* an online magazine highlighting corrosion-control efforts of the DoD, as well as projects and initiatives the agency shares with laboratories, universities, research institutes, and private companies.

CorrDefense will be published three times a year and is part of a far-reaching DoD initiative to improve corrosion-control efforts and employ best practices to protect military assets and infrastructure. The October 2005 inaugural issue is now available on the DoD Corrosion Exchange Web site at <http://www.dodcorrosionex change.org/CorrDefense/October-2005/ >.

Policy & Legislation

DEFENSE FAR SUPPLEMENT (DFARS) CHANGE NOTICE 20051109

DoD published the following DFARS changes on Nov. 9, 2005. To review these changes in their entirety, go to the Director, Defense Procurement and Acquisition Policy Web site at <http://www.acq.osd.mil/dpap/dars/dfars/changenotice/index.htm>.

Final Rules

Information Technology Equipment— Screening of Government Inventory (DFARS Case 2003-D054)

Deletes obsolete procedures for screening of government inventory before authorizing a contractor to purchase information technology equipment. DoD now manages information technology equipment in the same manner as other government property, in accordance with FAR Part 45 and DFARS Part 245.

Acquisition of Telecommunications Services (DFARS Case 2003-D055)

Revises DFARS text on the acquisition of telecommunications services to update terminology, delete obsolete text, and add text addressing DoD's authority to enter into contracts for telecommunications resources. Adds to DFARS PGI (Procedures, Guidance, and Information), historical documents on delegated authority from the General Services Administration for the procurement of telecommunications services.

Update of Clauses for Telecommunications Services (DFARS Case 2003-D053)

Deletes an obsolete clause and revises the applicability of certain clauses used in contracts for telecommunications services. The revised clauses previously were applicable only to common carriers (those subject to Federal Communications Commission or other governmental regulation). This change makes the clauses applicable to both common and noncommon carriers to reflect the current business environment, where the differences between common and noncommon carriers have become less distinct.

Contract Administration (DFARS Case 2003-D023)

Deletes text that is unnecessary or duplicative of FAR policy in the areas of: visits to contractor facilities; conduct of postaward conferences; review and negotiation of contractor costs and billing rates; use of contractor past performance information; and contractor internal controls. Relocates procedures to PGI in the areas of: providing contract administration services to foreign governments and international organizations; coordination between corporate and individual administrative contracting officers; processing of contractor novation and change-of-name agreements; processing of voluntary refunds from contractors; and providing technical representatives at contractor facilities. Updates the clause on contractor material management and accounting systems for consistency with policy found in the prescriptive DFARS text.

Contract Modifications (DFARS Case 2003-D024)

Deletes unnecessary text on contract modifications; clarifies procedures for determining if a request for equitable adjustment requires contractor certification; and relocates to PGI, procedures for identifying foreign military sales requirements, for obligating or deobligating contract funds, and for review and definitization of change orders.

Subcontracting Policies and Procedures (DFARS Case 2003-D025)

Clarifies government responsibilities for conducting reviews of contractor purchasing systems; updates a reference to a FAR clause on contracts for commercial items; and relocates to PGI, examples of weaknesses in a contractor's purchasing system that may indicate the need for a review.

Extraordinary Contractual Actions (DFARS Case 2003-D048)

Updates requirements for processing a contractor's request for extraordinary contract adjustment. Relocates to PGI, procedures for preparation of records relating to contractor requests for adjustment and for submission of those requests to a contract adjustment board.

Technical Amendment

Amends the clause at 252.211-7005, Substitutions for Military or Federal Specifications and Standards, to update the Internet address for obtaining a list of processes accepted under the DoD Single Process Initiative.
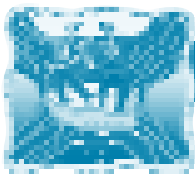
Proposed Rule

Contract Administration Functions (DFARS Case 2003-D051)

Updates the list of contract administration functions to clarify responsibilities for payment administration and verification of contractor compliance with earned value management system requirements; deletes obsolete text on mobilization production planning surveys; and relocates to PGI, procedures for designation of contract payment offices.

DEFENSE FAR SUPPLEMENT (DFARS) CHANGE NOTICE 20051114

DoD has updated the DFARS to incorporate the final rule published on Sept. 13, 2005, that became effective on Nov. 14, 2005. To review this Change Notice in its entirety, go to the Director, Defense Procurement and Acquisition Policy Web site at <http://www.acq.osd.mil/dpap/dars/dfars/changenotice/index.htm >.

Final Rule

Radio Frequency Identification (DFARS Case 2004-D011)

This final rule contains policy and a contract clause requiring contractors to affix passive radio frequency identification (RFID) tags, at the case and palletized unit load levels, when shipping certain items to certain DoD locations. The rule also requires contractors to electronically submit advance shipment notices to DoD, to permit association of the RFID tag data with the corresponding shipment.

DEFENSE FAR SUPPLEMENT (DFARS) CHANGE NOTICE 20051209

DoD published the following final and proposed DFARS rules on Dec. 9, 2005. To review these rule changes in their entirety, go to the Director, Defense Procurement and Acquisition Policy Web site at <http://www.acq.osd.mil/dpap/dars/dfars/changenotice/index.htm >.

Final Rules

Ordering Period for Task and Delivery Order Contracts (DFARS Case 2003-D097/2004-D023)

Finalizes, with changes, the interim rule published on Dec. 15, 2004 (DFARS Change Notice 20041215), that limits the ordering period of a task or delivery order contract awarded under the authority of 10 U.S.C. 2304a. The changes in the final rule clarify the types of contracts that are subject to the rule and specify that the statutory requirement for notifying Congress of contracts with ordering periods exceeding 10 years expires at the end of fiscal year 2009.

Socioeconomic Programs (DFARS Case 2003-D029)

Relocates policy for contracting with historically black colleges and universities and minority institutions (HBCU/MIs) to a new location within the DFARS, for consistency with the location of FAR policy on this subject; updates the relocated text to exclude information on HBCU/MI contract percentage goals and infrastructure assistance that is unnecessary for inclusion in the DFARS; deletes text on base closures and realignments that duplicates policy found elsewhere in the DFARS; and relocates to PGI, procedures for obtaining funds for incentive payments to contractors that award subcontracts to Indian organizations and enterprises.

### Environment, Occupational Safety, and Drug-Free Workplace (DFARS Case 2003-D039)

Deletes unnecessary cross-references and general statements regarding hazard warning labels and a drug-free workplace; relocates text on ozone-depleting substances to a more appropriate location within the DFARS; relocates to PGI, internal DoD procedures on safety precautions for ammunition and explosives and use of recovered materials; and revises the title of DFARS Part 223 for consistency with the title of FAR Part 23.

Foreign Acquisition (DFARS Case 2003-D008)

Updates and clarifies DFARS text on the acquisition of supplies and services from foreign sources. Relocates to PGI, guidance on evaluating offers of foreign end products; information on international agreements; and procedures for contracting with qualifying country sources, for administration of duty-free entry provisions, and for acquisitions involving foreign military sales requirements.

Free Trade Agreements—Australia and Morocco (DFARS Case 2004-D013)

Finalizes, with changes, the interim rule published on Jan. 13, 2005 (DFARS Change Notice 20050113) to implement new Free Trade Agreements with Australia and Morocco . The new Free Trade Agreements were scheduled to become effective on Jan. 1, 2005 . However, the Morocco Free Trade Agreement has not yet entered into force and is therefore excluded from this final rule. In addition, for consistency with the FAR and other changes made by the interim DFARS rule, this final rule amends the definition of "eligible product" to include foreign construction material.
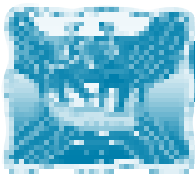
Contracting for Security-Guard Functions (PGI Case 0000-P051)

Amends PGI to address the DoD report and plan that allows the continuation of contracts for security-guard functions, entered into under DFARS 237.102-70(d), through Sept. 30, 2006.

Proposed Rules

Required Sources of Supply (DFARS Case 2003-D072)

Deletes unnecessary text on GSA Federal Supply Schedules; deletes text on the Defense National Stockpile and the acquisition of helium, as these issues are adequately addressed in the FAR; deletes obsolete text on the DoD Industrial Preparedness Production Planning Program; and relocates to PGI, procedures for ordering from central nonprofit agencies, for acquisition of items under the DoD Coordinated Acquisition Program, for contracting or performing field service functions for NASA, for use of the DoD Precious Metals Recovery Program, and for use of enterprise software agreements for acquiring commercial software and related services.

Restriction on Carbon, Alloy, and Armor Steel Plate (DFARS Case 2005-D002)

Clarifies a restriction on the acquisition of foreign carbon, alloy, or armor steel plate. The restriction implements provisions of annual DoD appropriations acts, which prohibit the acquisition of carbon, alloy, or armor steel plate that is not melted and rolled in the United States or Canada , for use in any Government-owned facility or property under the control of DoD. The proposed changes provide consistency in the manner in which the restriction is addressed within the DFARS.

DFARS CHANGE 20051220: CONTRACT FINANCING

On December 20, 2005, the Office of the Director of Defense Procurement and Acquisition Policy published the following changes and proposed changes to the Defense FAR Supplement (DFARS). Additional information on these changes can be found at <http://www.acq.osd.mil/dpap/dars/dfars/change notice/index.htm >.

Final Rules

Contract Financing (DFARS Case 2003-D043)

Clarifies requirements for establishing due dates for contract financing payments; deletes text that is unnecessary or duplicative of FAR/DFARS policy on financial consultation matters, contract payment instructions, and use of the Governmentwide commercial purchase card; deletes unnecessary text on the composition and responsibilities of the DoD Contract Finance Committee; increases from $500 to $2,500 the value at or below which the requirements of FAR Subpart 32.4, Advance Payments for Non-Commercial Items, do not apply to high school and college publications for military recruitment efforts; and relocates to PGI, text on department/agency contract financing offices, approvals for advance payments or unusual progress payments, debt collection procedures, and bankruptcy reporting.

Technical Amendment

Adds references to DoD guidance on purchase, travel, and fuel card programs. Adds procedures to PGI regarding designation of a contracting officer's representative for service contracts.

Proposed Rule

Contract Pricing and Cost Accounting Standards (DFARS Case 2003-D014)

Updates and clarifies text regarding contract pricing matters and cost accounting standards. Implements provisions of Section 817 of the National Defense Authorization Act for Fiscal Year 2003 (Public Law 107-314) regarding exceptions to cost or pricing data requirements and waiver of cost accounting standards. Relocates to PGI, DoD procedures addressing pricing considerations, profit analysis, and waiver of cost accounting standards.

AMERICAN FORCES PRESS SERVICE (DEC. 14, 2005)
DIRECTIVE BOOSTS PRIORITY OF STABILITY OPERATIONS

Sgt. Sara Wood, USA

WASHINGTON (AFPN)—Stability operations are now a major priority for the Defense Department, on par with combat operations, and will receive more planning and funding, two DoD officials said in Washington on Dec. 14.

The officials were explaining DoD Directive 3000.05, which was signed Nov. 28. The directive provides guidance on stability operations and assigns responsibility for planning, training, and preparing to conduct and support stability operations.

The origins of the directive come from the Sept. 11, 2001, terrorist attacks, said Jeffrey Nadaner, deputy assistant secretary of defense for stability operations. Before Sept.
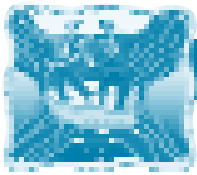
11, many people within DoD thought of stability operations as optional, Nadaner said, but after the terrorist attacks, they were seen as a necessity.

The ability of the United States and its partners to conduct stability operations can prevent failed and failing states from becoming havens for terrorists and criminals, and can ensure the United States is safe at home and successful in its military missions, he said.

Stability operations are defined operations, other than combat operations, that involve violence or the threat of violence and can come in various sizes and forms, Nadaner said. Examples of stability operations are rebuilding institutions such as security forces, correctional facilities, and judicial systems; reviving or building the private sector, including encouraging citizen-driven economic activity and building necessary infrastructure; and developing representative governmental institutions, according to the directive.

The directive lays out important policies, Nadaner said. Among those are that stability operations are a core military mission and shall be given priority comparable to combat missions, and that although stability operations are best performed by indigenous, foreign, or U.S. civilian professionals, U.S. military forces will be prepared to perform all tasks required to maintain order when civilians cannot do so, he explained.

One of the key requirements in all stability operations is the need for indigenous security forces to be established quickly, Nadaner said. This is a lesson learned from the war in Iraq that will be incorporated into future operations, he said.

The directive includes a requirement that the stability operations portions of war plans are fully completed by the U.S. military, Nadaner said. The secretary of defense will receive periodic reports about these plans so his level of information about stability operations is equal with that of combat operations, he added.

Another important aspect of the directive is that it encourages different government agencies to participate in stability operations, Nadaner said. "The directive has a flavor throughout that's very inter-agency, because we recognize that stability operations are inherently and intensely inter-agency," he said.

DoD wants to help other government agencies develop their own capabilities for stability operations, Nadaner said. One plan is to develop civilian-military teams, much like the provincial reconstruction teams in Afghanistan, to be ready to deploy to stability operations, he said.

The State Department and DoD already work together and even share money when it comes to stability operations, Nadaner said. State Department officials participate in DoD exercises, and DoD is seeking authority from Congress to transfer $200 million to the State Department to prepare for a potential stability crisis, he said.

To implement the requirements of this directive will require a series of efforts within DoD and other government agencies, Nadaner said. Some of the initiatives are going to be difficult, he said, so all the changes won't be visible right away, but DoD is at a good starting point.

"We're looking to see the changes done right, and we think we have a good framework to do so," he said.

This directive should be considered initial guidance and will evolve over time, said Air Force Col. J. Scott Norwood, deputy director for international negotiations and multilateral affairs, strategic plans and policy directorate, the Joint Staff.

Norwood's office will oversee the implementation of the initiatives, he said, which will involve a range of activities. DoD will have to reassess its doctrine, training structure and processes, educational programs, and war plans, he said. Also, officials will need to incorporate lessons learned from Iraq and Afghanistan, he noted.

Norwood warned against interpreting the directive to mean stability operations are the goal in and of themselves, Norwood said. The United States works hard to develop weak states and prevent failed states, he pointed out, so stability operations are not necessary. But measures need to be in place if that doesn't work, he said.

"We recognize those strategies may not work, and when we have to conduct stability operations, we don't want it to be a pick-up game; we want varsity capabilities from the onset," Norwood said.
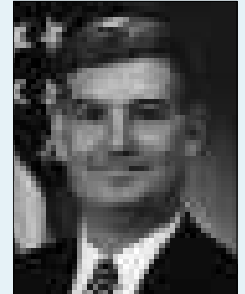
Wood is with American Forces Press Service.
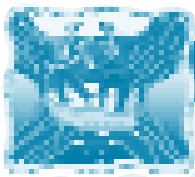
THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

ACQUISITION,
TECHNOLOGY AND
LOGISTICS

DEC 13 2005

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Implementation of Section 141, Ronald W. Reagan National Defense Authorization
Act for Fiscal Year 2005

Section 141 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, Pub. L. No. 108-375, requires the Department to revise regulations, directives, and guidance to require the following with respect to "covered systems":

(1) an assessment of warfighter survivability and of system suitability against asymmetric threats as part of the development of system requirements; and,

(2) key performance parameters for force protection and survivability as part of the documentation of system requirements.

"Covered systems" means any of the following systems that are expected to be deployed in an asymmetric threat environment: (1) any manned system; or (2) any equipment intended to enhance personnel survivability.

These requirements do not apply to systems that entered low-rate initial production (LRIP) before October 28, 2004. All other covered systems must meet the requirements of section 141, regardless of acquisition category and regardless of whether the system's requirements documents have been approved previously. With respect to programs using an evolutionary approach, section 141 applies to each increment that had not entered LRIP prior to October 28, 2004.

This policy is effective immediately. Department of defense Instruction 5000.2 and associated policies will be revised consistent with this direction.

Kenneth J. Krieg
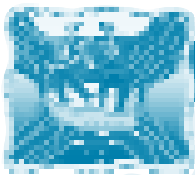
OFFICE OF THE UNDER SECRETARY OF DEFENSE
3000 DEFENSE PENTAGON
WASHINGTON, DC 20301 - 3000

ACQUISITION,
TECHNOLOGY AND
LOGISTICS

DEC 0 8 2005

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
ATTN: ACQUISITION EXECUTIVES
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Internal Controls for the Purchase Card Program

Over the past eighteen months, a working group consisting of representatives from the Comptroller, Acquisition, Inspector General, and Military Department audit communities developed a portfolio of internal controls which are appropriate to safeguard Government resources and manage risk associated with the use of the Government Purchase Card within the Department. The Government Accountability Office, the Inspector General, and General Counsel (both Acquisition and Logistics and Fiscal) have concurred on the attached controls.

Please ensure that your purchase card guidance and instructions are consistent with these controls. These controls must be resident in any electronic capability used within the Department to reconcile, certify, and pay purchase card invoices. Further, these controls clarify the joint UInder Secretary of Defense for Acquisition, Technology & Logistics/Comptroller policy memorandum of November 27, 2002, by establishing both the criteria and process for DoD Components who wish to use an application other than the proprietary bank systems to settle purchase card invoices.

Components who wish to nominate electronic solutions other than use of the existing banks systems must work with the Purchase Card Program Office, the Office of the DoD Comptroller, and the appropriate Component-level audit community to validate that all of the required internal controls in the proposed alternate capability are resident and operate properly in a limited production environment before a full implementation is approved. If investments are required that necessitate approval by an investment review board, then that process must be fulfilled concurrent with this policy.

Systems that satisfy this validation process will be authorized by the Director of Defense Procurement and Acquisition Policy to settle purchase card invoices. However, organizations who are not now on-line and do not nominate electronic solutions (and successfully conclude the validation process) will be required to use the bank electronic certification/payment tool.

Organizations that decide to pursue an alternate electronic solution should follow the procedural guidance detailed in the Charge Card Guidebook posted at the Purchase Card Program Office web site: <http://www.purchasecard.saalt. army.mil>. The point of contact on this matter is Mr. Dennis Hudner. He can be reached at 703-681-3315.

Teresa McKay
Deputy Chief Financial Officer

Domenic C. Cipicchio
Acting Director, Defense Procurement
and Acquisition Policy

Attachment:
As stated
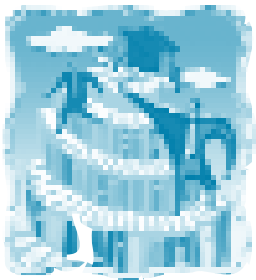
Conferences, Workshops & Symposia

TRANSPORTATION COMMAND EVOLVES AS DISTRIBUTION LEADER
1st Lt. Ed Gulick, USAF

NASHVILLE, Tenn.—Change, not only in the delineation of command responsibility between Air Mobility Command and U.S. Transportation Command, but also in the way U.S. Transportation Command projects military power, was the theme of the opening address at the 37th Annual Airlift/Tanker Association Conference Oct. 28.
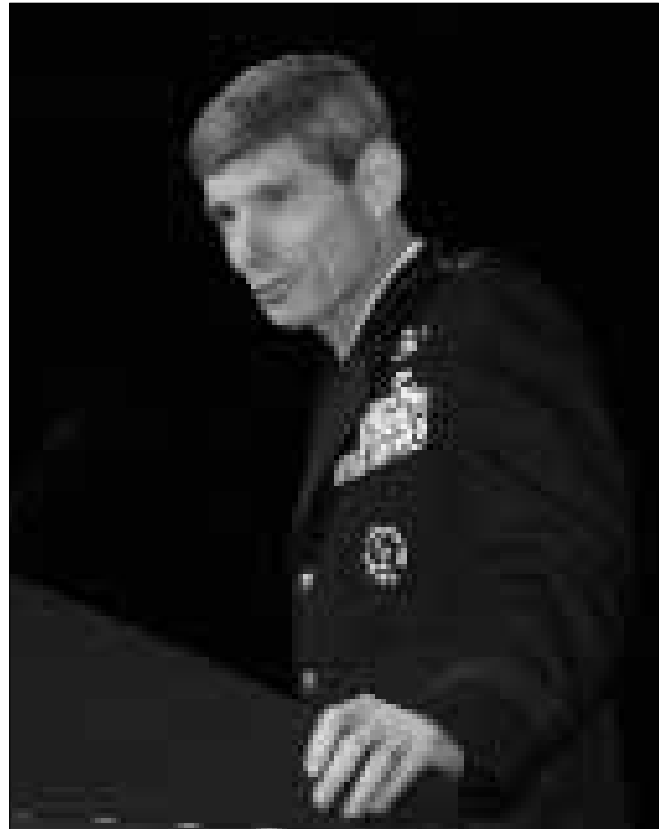
U.S. Air Force Gen. Norton Schwartz, U.S. Transportation commander, kicked off the conference with praise for the Air Mobility Command warfighter in a very challenging and demanding time, and then outlined recent and upcoming changes and challenges for his command. "We're changing the way we do business," he said of U.S. Transportation Command. Not because we can, but because we must be as adaptive and agile as we have ever been at any time in our history," Schwartz said.

"We'll change mindsets, perspectives, command structures, the mix of assets, whatever it takes. We have been trusted with the authority to lead, to transform, and [we have] an awesome responsibility of serving the combatant commanders who will win this war."

Among the most recent changes is the separation of command of Air Mobility Command and U.S. Transportation Command, which Schwartz sees as a good thing for both commands.

"The Air Force and the joint commands must have full-time leaders working their respective portfolios," said the general. "A large part of the logic is to provide the 80,000-plus Air Force members of Air Mobility Command with a four-star advocate not tied to joint considerations and workload."

A large portion of the separation is because of the growth and maturity U.S. Transportation Command has made in becoming the defense supply chain manager that the Secretary of Defense had envisioned for the command. That supply chain is an end-to-end process orchestrated by the command that is developing now and is the future of the distribution process, he said.

U.S. Air Force Gen. Norton Schwartz, commander of U.S. Transportation Command, addresses the audience during the 37th Annual Airlift/Tanker Association Conference at Nashville, Tenn., Oct. 28, 2005.

U.S. Air Force photograph.

"The future is all about forward-leaning joint warfare, doing things smarter," Schwartz said, noting that the Air Force has pioneered that idea.

Exercise "Bright Star" in Egypt is an excellent example of the Air Force showing the way ahead. The exercise involved the Army, Navy and Air Force, he continued.

"For the Air Force, an 18th Air Force Contingency Response Group, the 818th Contingency Response Group at McGuire Air Force Base, N.J., opened a deployment and distribution pipeline in a theater operation. Jointly, the Services opened an airfield, established in-transit visibility of passengers and cargo, and performed initial personnel and cargo movements."

The exercise uncovered a better way of executing joint cargo and personnel movement, he said.

"It proved that we could eliminate lags between initial occupation of a port and subsequent support phases," Schwartz said. "It proved operational advantages we can offer a combatant commander by placing experts and tools in his command, not leaving him a phone number to call for help."

That concept is now a reality for Joint Deployment Distribution Operation Centers.

When looking at recapitalization, Schwartz said he sees a need for a new analysis that will "underwrite a wise and well-reasoned position for recapitalization"; a study that will define the right mix of commercial and military airlift and will not always present airlift as the only answer.

In closing his speech, Schwartz made it clear that he trusts U.S. Transportation Command and those who support it.

"With your continuing dedication, vision, and hard work, I have absolutely no doubt that you and I and those who will follow us will continue filling that very profound obligation as we face the future, not as individual Services, but as joint warfighters," Schwartz said.

Gulick is with Air Mobility Command Public Affairs.

AIR FORCE SPACE COMMAND NEWS SERVICE (NOV. 30, 2005)
SYMPOSIUM KEYS ON SPACE SUPPORT
Joe Davidson

LOS ANGELES AIR FORCE BASE, Calif. (AFPN)— The theme for this year's Air Force Association National Symposium was "Space—Enabling the Warfighter."

With this in mind, Space and Missile Systems Center commander Lt. Gen. Michael Hamel and other Air Force leaders, and industry partners met in Beverly Hills, Calif., on Nov. 18 to discuss their roles in this vital effort.

The discussions were held to re-affirm their commitment to support the warfighter in the global war on terrorism, support others stationed around the world, and to support members of the military assisting in the relief efforts in the aftermath of hurricanes Katrina and Rita.

Hamel spoke about the early days of SMC, when its engineers, many of whom were World War II veterans, realized the importance of their talents in helping to produce the first-generation intercontinental ballistic missiles. The survival of the nation against the threat of the Soviet Union was the priority then.

A string of vital capabilities, such as Thor, Atlas, Delta, Titan, Discoverer, and the Defense Satellite Communications System, were developed within the first 10 years of the Western Development Division that helped to lay the foundations of every aspect of operational space capability known today.

Gen. Lance W. Lord, Air Force Space Command commander, touched on the theme of this year's symposium and began his comments by posing an argument to the audience.

"I would argue that we're not just enabling the warfighter, we're at war in space," Lord said. "We're at war in space because we are supporting and winning the global war on terrorism and as a result we've got to protect and defend the [satellite] constellations and the kinds of capabilities we put forth in space. We have to think in those terms."

Gen. Lance Smith, commander of U.S. Joint Forces Command and former deputy commander of U.S. Central Command, understands space by seeing what is going on in day-to-day life in Baghdad. "You space guys are providing us with our lifeline," Smith said. "We use it and take it for granted; but if we ever lost it, people would die."

During a panel discussion on the space systems acquisition process, Hamel said there were problems in the space acquisition process that were based on misplaced hope and the formerly held concept that delivery of space systems was based on a "faster, cheaper, and better techniques" philosophy. He said strategies such as these in the space acquisition business were very unforgiving.

Hamel stressed the importance of concentrating on people as well as processes and partnerships.

"We continue to get a lot of very, very bright young men and women that come in through our officer and enlisted ranks, and we're revitalizing the training we give those bright young folks to make sure they understand not simply the terminology or the time, but also the art of technical program management," Hamel said.

"We're going to make sure that everyone starts once again by assuming accountability all the way … to the individual projects engineers."

Under Secretary of the Air Force Dr. Ronald Sega spoke of the need to get back to basics for space acquisition. His comments included discussion of developing people, horizontally integrating within the space community, and managing space as an enterprise with a combined acquisition strategy.

Davidson is with Space and Missile Systems Center Public Affairs.

U.S. TRANSPORTATION COMMAND (DEC. 2, 2005)
ADMIRAL LIPPERT: DLA CHANGES WILL TAKE TEAM EFFORT

Sean Smith

WASHINGTON (AFPN)—Defense Logistics Agency Director Vice Adm. Keith Lippert said the agency's transformation will be take a team effort.

The admiral spoke of the change and other topics to more than 600 people Nov. 29 at the annual North American Defense Logistics Conference in Washington.

"The transformation is not going to be done by DLA itself," he said. "The military services and U.S. Transportation Command are big partners in this.

"Together, we can make this system better and better by providing reliable, cost-efficient, and high-quality materiel, services, and information support through end-to-end supply chain integration," he said. "And we're doing it."

He went on to talk about three of the 13 major transformation initiatives that by themselves "are returning $3 billion to the Services through reduced operating costs and greater efficiencies."

The three initiatives included business systems modernization, base realignment and closure, and the integrated data environment.

Lippert said replacing the old BSM system is long overdue.

"It was written in the '60s, implemented in the '70s, and should have been retired in the '80s," he said.

The vintage systems will be replaced by a single commercial system. As a result, cycle times will be reduced dramatically, and there will be significant savings in inventory and personnel. For DLA employees, BSM will provide training and opportunities to succeed in a new environment. The new system is expected to be fully operational by September.

BSM is a key enabler for achieving the goals of the agencies' strategic plan, Department of Defense Logistics Strategic Plan, and Joint Vision 2020.

The admiral also talked about three BRAC recommendations that will result in transformational change to the agency. All depot-level reparable procurement, as well as the vast majority of consumable hardware items not currently managed by DLA, will transition to the agency.

Additionally, management of repair depot supply operations will transition to DLA. Tires, compressed gases, and pre-packaged petroleum products will transition to direct vendor delivery.

Integrated data environment was the final transformation initiative about which the admiral spoke.

"IDE will provide supply chain information technology linkages and single point of system access for DLA's internal processes, DoD-wide log data exchange interoperability, and total asset visibility," he said. "It will also assure access to supply chain management data, centrally managed metadata, authoritative data sources, and DoD logistics business rules."

In addition to the transformation initiatives, Lippert addressed DLA's growing role in natural disaster relief and noted several performance trends that highlight the agency's successes.

"In the three days after Hurricane Katrina hit, we were told it was now our problem," he said. "Over the next days and weeks we supplied $305 million of relief to our people on the Gulf Coast."

In total, DLA supplied the Federal Emergency Management Agency with more than 25 million military rations, 2.2 million units of bottled water, 50,000 cots, 60,000 blankets, 4.5 million gallons of fuel, and many other supplies to support relief efforts.

The admiral also mentioned some significant performance achievements. These included a record low for

back orders, the lowest cost-recovery rate in agency history, and a 90 percent customer satisfaction rate.

DLA logistics operations director Maj. Gen. Bennie Williams said the agency is providing expeditionary support and transforming logistics through innovative excellence.

The general emphasized that the root of DLA's transformation is in "giving the warfighters what they need."

Williams discussed several agency transformational initiatives including BSM, supplier relationship management, National Inventory Management Strategy, and the Distribution Planning and Management System. By implementing these programs, he said the agency will further evolve into a "customer-focused enterprise, based on best practices and (information technology) tools."

During their presentations, both leaders addressed DLA's efforts associated with the conference's theme: "Marching Toward Seamless Support of Our Warfighter."

An awards ceremony was held in conjunction with the event. Two Defense Supply Center Philadelphia employees were selected as finalists for an award entitled "Beyond The Call Of Duty: Logistician of the Year."

Gary Shifton, chief of supplier operations for the Europe and Middle East Team, and Debbie Sinno, customer account specialist for the subsistence supply chain, were nominated.

Smith is with Defense Logistics Agency Public Affairs.

AIR FORCE SPACE COMMAND PUBLIC AFFAIRS (DEC. 15, 2005)
FORUM TO HELP IMPROVE COMMUNICATION FOR ACQUISITION
Tech. Sgt. Kate Rust, USAF

PETERSON AIR FORCE BASE, Colo.—Air Force Space Command members met with industry representatives at Peterson Dec. 12 in a forum dedicated to clearing away communication obstacles to the acquisition process.

"There was a similar event in October put together by the National Defense Industrial Association," said Lt. Col. Renee Richardson, chief, policy and clearance branch for Headquarters Air Force Space Command's contracting division, and organizer for the event. "This forum is more focused on space command acquisitions and improving industry and government communication so that we can get the warfighter what the warfighter needs."

In a tight budgetary climate where processes must run smoothly, it is vital that the government understands the demands placed on industry and industry understands the demands placed on the government, said Richardson.

"This will hopefully make the dialogue more meaningful so that we can get what we need faster and cheaper," she said.

Historically, the primary obstacle to communication has been a misunderstanding of the rules that either party has to adhere to within the acquisition process.

Those rules and processes have changed. It used to be a "push system" where the government pushed out its request for proposals and the industry responded.

Now industry and the government are working together to develop the requests. To ease this process, first they have to speak the same language.

In break-out session recaps briefed to Gen. Lance W. Lord, Air Force Space Command commander, groups revealed that the education on acquisition ethics must be further refined; that industry needs a process to mitigate the effects of the military's high turnover of personnel; and a system for defining qualitative and quantitative indicators should be developed.

It can be difficult, though, to quantify desired outcomes on critical Air Force Space Command contracts that require analysis, or brainpower.

"These efforts include support services contracts, for instance the contractors who work as part of the headquarters team," said Richardson. "That's part of the process we are looking at improving."

"Whether or not you're satisfied with that kind of service is primarily after-the-fact," said Lord. "We need to figure out how to translate this for the contract writers."

There are no simple answers for the way ahead. "You've given us about eight months of work," Lord amiably told the briefers.

In his final comments, the general thanked the members of the forum for shedding some light on the issues and promised to work toward making the system better.

Rust is with Air Force Space Command Public Affairs.

22ND ANNUAL TEST AND EVALUATION CONFERENCE

The 22nd Annual Test and Evaluation Conference will take place March 6–9, 2006, in Jacksonville, Fla. This national conference will address the issues regarding modeling and simulation (M&S) in the context of test and evaluation (T&E); outline what is at stake; present a synopsis of current policies regarding M&S, including the interplay between T&E and M&S; and include presentations from knowledgeable leaders from the T&E and M&S worlds to present and discuss how to make these two worlds work more effectively together in support of the nation's defense, both at home and abroad.

Who Should Attend?

The annual Test and Evaluation Conference is invaluable to those tasked with directing and executing system development programs for the Department for Defense, Department of Homeland Security, Department of Energy, and other government departments tasked with various elements of our nation's security. Test planners, M&S users and developers, range operators, program managers, military personnel charged with system acquisition responsibilities, industrial professionals, and others under contract with the government to provide support to our nation's defenses will also benefit from this national conference. Register for the conference at <http://register.ndia.org/interview/register.ndia?#January2006>.

CHEMICAL BIOLOGICAL INDIVIDUAL PROTECTION CONFERENCE & EXHIBITION

The Chemical, Biological Individual Protection Conference & Exhibition will be held March 7–9, 2006, at the Charleston Area Convention Center in Charleston, S.C. Registration information will be posted as soon as it becomes available at <http://register.ndia.org/interview/register.ndia?#May2006>.

JOINT SERVICES ENVIRONMENTAL MANAGEMENT CONFERENCE

The 2006 Joint Services Environmental Management Conference and Exposition will be held March 20–23, 2006, at the Colorado Convention Center in Denver, Colo.

The theme of 2006 JSEM is "Transformation," highlighting the many new and innovative ways the Department of Defense, other federal agencies, states, and the defense industry are transforming how they are managing and protecting the environment. This is a time of significant change within the Department, as it embarks on major transformation initiatives such as comprehensive asset management, global basing, Base Realignment and Closure, and the Business Management Modernization Program. The 2006 JSEM Conference will focus on these efforts to transform business operations to achieve improved warfighter support while enabling financial accountability.

The 2006 JSEM Conference will address a wide range of perspectives, including policy, implementation, best management practices, data management, and technology.

The 2006 JSEM Conference and Exhibition will be held in conjunction with the GeoSpatial Technologies Symposium and Exposition, creating an excellent opportunity to highlight the use of GeoSpatial tools to meet Environmental Management needs.

This conference has become the most significant event for environmental policy makers, practitioners and professionals. Register for the conference at <http://register.ndia.org/interview/register.ndia?#March2006>.

GUNS AND MISSILE SYSTEMS CONFERENCE AND EXHIBITION

The 41st Annual Armament Systems: Gun and Missile Systems Conference will be held March 27–30, 2006, at the Sacramento Convention Center in Sacramento, Calif. This year's theme will be "Enhancing Our Capability and Evolving for Tomorrow," and will present topics that demonstrate how our nation's current gun, munition, and missile system technologies can be adapted and evolved to meet tomorrow's missions and operations. Register for the conference at <http://register.ndia.org/interview/register.ndia?#May2006>.

Conferences, Workshops & Symposia

NATIONAL CONTRACT MANAGEMENT ASSOCIATION (NCMA) WORLD CONGRESS 2006

The NCMA World Congress 2006 will be held April 10–12, 2006, at the Hyatt Regency, Atlanta, Ga. This year's theme will be *Achieving High Performance in Global Business: Leadership, Outsourcing, and Risk Management*. At World Congress 2006 you'll discover networking opportunities; career fair (bring your résumés); exhibit hall with vendor demonstrations; and over 120 concurrent track sessions, including Executive Leadership, e-Business, Contract Law, Commercial Contracting, and Knowledge Management. Register for the NCMA World Congress 2006 at <http://www.ncmahq. org/meetings/WC06/registration.asp >.

22ND ANNUAL NATIONAL LOGISTICS CONFERENCE AND EXHIBITION

The 22nd Annual National Logistics Conference and Exhibition will be held April 17–21, 2006, at the Hyatt Regency Miami at Miami Convention Center, Miami, Fla. Share insights with senior DoD leadership, top industry executives, project directors and program managers, information technology providers and developers, government policy makers and regulators, defense contractors and design professionals, third party logistics providers, and equipment suppliers and manufacturers. Scheduled sessions will include Quadrennial Defense Review 2006 and Logistics Transformation, Net Centric Warfare–Role of Logistics, Logistics Research, Development and Systems Support Technologies, Achieving Supply Chain Asset Visibility and Accountability—RFID and UID, Military Service Logistics Leadership Fireside Chat, and Joint Logistics Leadership Fireside Chat. Register online at <http://register.ndia.org/interview/ register.ndia?#May2006 >.

DEFENSE ACQUISITION UNIVERSITY ALUMNI ASSOCIATION ACQUISITION COMMUNITY CONFERENCE/SYMPOSIUM 2006

Mark your calendar and plan now to attend the April 18, 2006, DAUAA Acquisition Community Conference/Symposium, which will cover Quadrennial Defense Review (QDR) impact on DoD and the defense industry. Seating will be limited at this exciting event, so reserve your spot by registering at <http;//www.dauaa.org > or calling 1-800-755-8805. Watch the association Web site for future announcements.

7TH ANNUAL NDIA SCIENCE & ENGINEERING TECHNOLOGY CONFERENCE/DOD TECH EXPO

The 7th Annual National Defense Industrial Association (NDIA) Science and Engineering Technology Conference/DoD Tech Expo will be held April 18–20, 2006, at the Buena Vista Palace, Lake Buena Vista, Fla. Registration information will be posted as soon as it becomes available at <http://register.ndia.org/inter view/register.ndia?#May2006 >.

INTERNATIONAL TRAINING AND EDUCATION CONFERENCE—*ITEC 2006*

The International Training and Education Conference, ITEC 2006—now in its 17th year—will be held May 16–18, 2006, at ExCel London, the international exhibition and conference centre. ITEC is Europe's only conference and exhibition dedicated to defense training, education, and simulation exhibition of equipment and services. Participants will find that ITEC 2006 is *the* meeting place to network with international military and defense training experts. Register online at < https://www.itec.co.uk/page.cfm/Action = PreReg/Pre RegID = 9/t = m > .

DOD PROCUREMENT CONFERENCE

Plan ahead for the 2006 DoD Procurement Conference May 23–26, 2006, in Orlando, Fla. Watch for details of the conference at <http://www.acq. osd.mil/dpap/about/conferences.htm > .

TOTAL LIFE CYCLE SYSTEMS MANAGEMENT CONFERENCE

The Total Life Cycle Systems Management (TLSCM) Conference will be held July 10–12, 2006, at the Charlotte Convention Center in Charlotte, N.C. The conference will emphasize DoD Diminishing Manufacturing Sources and Material Shortages (DMSMS) and will be a follow on to the DMSMS meetings. Registration information will be posted as soon as it becomes available at <http://register.ndia.org/interview/register.ndia? #May2006 >.

ANNUAL SYSTEMS ENGINEERING CONFERENCE

The 9th Annual Systems Engineering Conference will be held Oct. 23–27, 2006, at the Hyatt Islandia in San Diego, Calif. Registration information will be posted as soon as it becomes available at <http://register.ndia.org/interview/register.ndia?#May 2006 >.
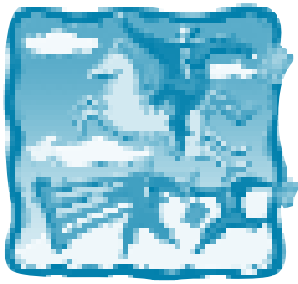
Acquisition & Logistics Excellence

AIR FORCE, SMALL BUSINESS SPECIAL-ISTS TOP DEFENSE AWARDS

WASHINGTON (AFPN)—The Air Force is the top-performing major defense agency in the Department of Defense Small Business Program for fiscal 2004, defense officials said. Also, two Air Force small business professionals earned awards, rounding out the top honors for the Air Force.

The recognition is the highest DoD agency-level small business program award. Air Force received the award in a ceremony in December at the Pentagon.

Elizabeth A. Bryant, formerly of the 460th Space Wing, Buckley Air Force Base, Colo., is the DoD Small Business Specialist for 2004. Reinette Alecozay, Air Education and Training Command, Randolph AFB, Texas, is the DoD Small Business Contracting Professional of the Year.

"What an honor for all Air Force small business specialists who contributed so much to the Air Force award, and these two small business professionals whose individual achievements have been recognized," said Joseph G. Diamond, director of the Air Force Office of Small and Disadvantaged Business Utilization.

For the Air Force to take the top award attests to the strong partnership between small business specialists and Air Force leaders, he said. Wing commanders, and support group commanders in particular, also play a vital role in promoting the advocacy of small businesses.

"And the senior Air Force leadership continues to emphasize that small business provides affordable, effective, and sustainable warfighting capabilities to the Air Force," he said

Bryant earned the honor for her education and recruiting program that doubled the number of small business awards at her wing since 2002. Her business strategy also enabled the unit to exceed its HUBZone (historically underutilized business zone) goal for the first time.

Alecozay earned the award for pioneering Air Force Education and Training Command's first set-aside for the Foreign Military Sales aircraft maintenance services. The resulting "best-value" award to a small business con-

tractor has the potential to save more than $10 million over the five-year life of the contract.

PREDATOR'S SUCCESS UPS PROCURE-MENT AND DEVELOPMENT
Chris McGee

WRIGHT-PATTERSON AIR FORCE BASE, Ohio (AFPN)—With the MQ-1 Predator logging significant hours in counterinsurgency operations and earning troop support, the Air Force wants to buy more of the aircraft and develop the next-generation variant.

Predators worldwide are logging 4,000 hours a month in support of the war on terrorism and other operations. And since the Sept. 11, 2001 terrorist attacks, they have flown more than 103,000 combat hours in global operations, including a monthly record of 4,700 in July.

The Aeronautical Systems Center manages the unmanned aerial vehicles and Air Combat Command units operate them.

"Predator is a highly effective weapon system ideally suited for supporting U.S. and coalition forces," said Thomas Severyn, director of center's Predator Systems Squadron. "Achieving 4,700 hours in a month confirms that persistent armed reconnaissance is a key weapon in the global war on terrorism."

As part of center's Reconnaissance Systems Wing, the Predator Squadron procures aircraft, ground-control stations, support equipment, spare parts, depot repair services, and retrofits to upgrade older variants. The squadron also provides world-wide sustainment aid, like engineering, depot support, and supply chain management.

With Predator proving itself in combat and gaining legions of advocates, Congress authorized funding for 15 additional Predators and to accelerate delivery of aircraft already in production.

"We recently accepted Predator number 125, and we'll exercise our third full-rate production contract in fiscal 2006," Severyn said. "That includes a minimum of seven more Predators and a maximum of 36."
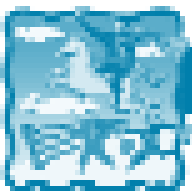
Pictured is the MQ-9 Predator B Hunter/ Killer. Predator is a long-endurance, medium-altitude, unmanned aircraft system for surveillance and reconnaissance missions. It has a Ku-band satellite data link to provide over-the-horizon mission capabilities.

Image courtesy U.S. Air Force and General Atomics Aeronautical Systems.

Even with the program's successes, the squadron is working to bring the next-generation system online. Predator MQ-9 will deliver significantly expanded capabilities, flying twice as high, twice as fast, and carrying four times the weapons. Those include the GBU-12, EGBU-12, and GBU-38 500 lb. joint direct attack munition.

"The MQ-9 will provide a hunter-killer capability and will feature the ability to use synthetic aperture radar to hunt for targets," Severyn said. "It will be able to cross-cue targeting data to the electro-optic/infrared sensor."

According to Severyn, the MQ-9—Predator B—is in the first stage of development and demonstration, and initial production. Initial combat capability versions are scheduled for delivery to operational units next spring, with production units targeted for delivery in 2008—after initial operational test and evaluation.

The Predator has quickly endeared itself to warfighters as a multi-role weapon system able to locate and strike time-critical targets, he said. And it provides a persistent eye in the sky over dangerous areas in Iraq and Afghanistan.

Driving the Predator's popularity are its two AGM-114 Hellfire missiles, sophisticated sensors and cameras feeding full-motion video to ground troops and aircraft.

"I have seen our UAS (unmanned aircraft system) force evolve from one that was principally an intelligence-collection platform in Bosnia to one that today has a very potent air-to-ground capability and represents a truly flexible, combat platform," said Lt. Gen. Walter E. Buchanan III, 9th Air Force and U.S. Central Command Air Forces commander

Severyn said people working in Predator program acquisition find it both rewarding and motivating to know troops in the field are singing the Predator's praises and that they are testifying to how the system is helping eradicate insurgent threats and saving the lives of U.S. and coalition forces.

"Troops in the field speak highly of the system, want more of it, and credit Predator for saving lives," Severyn said.
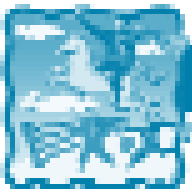
He said the positive feedback "drives our people to do whatever it takes to provide support to the warfighters."

"The long hours are minor burdens when put in the perspective of Predator eyes flying overhead supporting coalition forces, providing combat intelligence, surveillance, and reconnaissance—and saving lives everyday," he said.

McGee is with Aeronautical Systems Center Public Affairs, Wright-Patterson AFB, Ohio.

AIR FORCE PRINT NEWS (OCT. 31, 2005)
AIR FORCE DEPOTS EXCEED MAJOR MAINTENANCE GOALS

WRIGHT-PATTERSON AIR FORCE BASE, Ohio— For the second consecutive year, the Air Force's three air logistics centers exceeded

their aircraft production goal and met their engine production goal, putting more hardware essential to the global war on terrorism and peacetime training missions into the hands of U.S. warfighters.

The overall on-time delivery rate for aircraft rose to 96 percent, an all-time high, according to statistics for fiscal year 2005 collected and analyzed by the logistics and sustainment directorate at Air Force Materiel Command headquarters. In all, the AFMC workforce at the three depots and the contractor workforce produced 1,152 aircraft, of which 239 were unscheduled for maintenance, but serviced because of need.

For aircraft produced organically (that is, in-house at AFMC facilities) the composite on-time production rate was even higher—99.2 percent. The established standard is 92 percent.

Contractor workers improved their on-time rates from 76.8 percent in 2004 to 89.9 percent.

"I'm in awe of our people for what they've accomplished," said Gen. Bruce Carlson, AFMC commander. "It's obvious to me that from the senior leadership at our depots on down to the people turning the wrenches, the hard work and innovative thinking they've displayed have been the difference between success and failure."

Brig. Gen. Gary T. McCoy, AFMC director of logistics and sustainment, called the accomplishment "incredible," saying, "This was a banner production year for our three logistics centers. What this really means is that our combined team of Air Force civilians, military members, and contractors returned more aircraft and engines to the warfighters—more front-line capability for the global war on terrorism. As an American, it makes me extremely proud of these committed patriots who are working so hard to ensure our warriors have what they need to get the job done."

Work quality on the aircraft produced had logisticians celebrating as well. The number of defects per aircraft averaged 0.3. Additionally, engines produced met the goal of 334.

In the aircraft sustainment world, production refers to completion of required maintenance on aircraft and engines. Sometimes production is unscheduled because of an immediate need for maintenance or overhaul, but more often, production is a scheduled requirement known as programmed depot maintenance.

The air logistics centers, or depots, are located at Hill Air Force Base, Utah; Tinker AFB, Okla.; and Robins AFB, Ga. They report to AFMC headquarters.

Significant improvements in on-time delivery rates the past two fiscal years evolved from the practical implementation of Lean transformation practices. Lean is a methodology designed to create value, eliminate waste, and allow an organization to adapt quickly to change.

Earlier this month, the three air logistics centers each received the prestigious Shingo Prize for Excellence in Manufacturing. The Shingo prize recognizes organizations that apply innovative manufacturing strategies and practices to achieve world-class results. Prior to 2005, the Shingo prize was awarded only to private-sector companies.

NAVY NEWSSTAND (DEC. 13, 2005)
HORNET INDUSTRY AND NAVY TEAMS WIN HONORS

Chuck Wagner

Several industry and Navy-led teams behind the F/A-18 Hornet have received prestigious recognition for their work in building and supporting the Navy's premier fighter-attack aircraft.

The Boeing Integrated Defense Systems F/A-18 program won top honors at *Aviation Week's* 2005 Program Excellence Awards during the publication's Aerospace & Defense Programs and Productivity Conference in Phoenix, Ariz. Nov.15. Boeing is the prime contractor manufacturing the aircraft.

Two Navy-led teams supporting the Hornet fleet were also recently announced winners of the first Secretary of Defense Performance Based Logistics Awards competition.

Aviation Week's program excellence initiative evaluates four categories of program leadership—strategic linkage, organizational capability, managing complexity, and delivering performance. The initiative, launched in 2004, was developed on the basis of distinguishing between leadership and management, and the multi-faceted complexities of program leadership. The criteria were developed in concert with NASA, Defense Acquisition University, the Strategic Leadership Institute, and industry leaders.

"Smart program management among the Hornet Navy and industry team is essential to meeting our shared

In flight testing of the Joint Helmet Mounted Cueing System for the F/A-18F Super Hornet.
Image courtesy U.S. Navy

obligation to the warfighter. This program continues to deliver increasing capabilities at decreasing cost, ahead of schedule, all while the Navy is proving the worth of the aircraft in combat today," said Capt. Donald Gaddis, the Navy's F/A-18 program manager (PMA 265) at Patuxent River Naval Air Station, Md. "This is a model acquisitions program that has set new standards of industry support."

The program's award submission pointed out that the Super Hornet has the highest readiness rate of any Navy tactical aircraft, even while equipped with state-of-the-art technologies. The Super Hornet is a multi-mission aircraft used for air superiority, day/night strike with precision-guided weapons, fighter escort, close air support, suppression of enemy air defense, maritime strike, reconnaissance, forward air control, and mid-air refueling.

"The Hornet program has set the benchmark for future programs in the key areas of cost, schedule, overall performance, and integrating complex technologies. The Hornet program's success is due directly to the culture the Hornet team leadership has fostered," according to the program's award submission statement.

The two recognized Navy teams are Navy/General Electric F404 PBL Team (sub-system level winner) and the Navy/Honeywell Auxiliary Power Unit Total Logistics Support PBL team (component level winner). Navy Inventory Control Point leads both teams.

The teams were selected from among numerous submissions from all military services. Their innovative logistics support solutions significantly increased the readiness of the F/A-18 Hornet, and that of other Navy aircraft, and reduced the cost to operate and maintain those aircraft. The teams received their awards at the Aerospace Industries Association Fall Product Support Conference in Hilton Head, S.C. Nov. 7–9.

The Hornet program—which includes the Navy and the Boeing-led Hornet Industry Team (Northrop Grumman, General Electric, and Raytheon)—was previously recognized with the Collier Trophy in 2000, which cited the Super Hornet's previous year performance, efficiency, and safety as well as completion of the developmental program ahead of schedule and under cost.
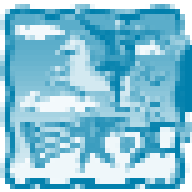
Wagner is with Naval Air Systems Command, Program Executive Office (Tactical Aircraft Programs) Public Affairs.

AMERICAN FORCES PRESS SERVICE (DEC. 12, 2005)
SMALL DEFENSE FIRMS PROVIDE BIG SUPPORT FOR WARFIGHTERS

Gerry J. Gilmore

WASHINGTON—The Defense Department does much business with large companies, yet smaller firms also make big contributions that help U.S. warfighters accomplish their missions, a senior DoD official said Dec. 12.

In fact, small businesses accounted for about 23 percent of all contracts awarded by DoD in fiscal 2004, said Frank M. Ramos, director of the department's Office of Small and Disadvantaged Business Utilization. DoD awarded nearly $47 billion in contracts to small businesses in fiscal 2004—a record, Ramos said.

"I'm so impressed in the four years that I've been here of the value and the innovation that small businesses have brought to the forefront—just huge," Ramos said at the conclusion of the 2004 Small Business Awards ceremony honoring DoD's military and civilian acquisition specialists in the Pentagon.

For example, Ramos said, small defense contractors have up-armored Humvees, provided ceramic plating for anti-ballistic vests, and developed the hand-held language-translation device that's used by servicemembers serving in Afghanistan, Iraq and elsewhere in the world.

Keynote speaker Kenneth J. Krieg, under secretary of defense for acquisition, technology and logistics, praised the awardees.

"You, the award winners, have set the standard for innovation, reasonable and intelligent risk-taking," Krieg said, "and that dogged persistence to achieve."

It's important that DoD seeks out ideas from small businesses, Krieg said, since they make up such a large portion of the U.S. economy. In fact, small businesses with fewer than 500 employees employ 52 percent of all American workers, according to the U.S. Small Business Administration.

"Our small business partners can help us fill gaps in our skill sets," Krieg said, "and also bring a more entrepreneurial spirit to the department."

Air Force civilian Elizabeth A. Bryant, a small business adviser at Buckley Air Force Base, Colo., was recognized under the Individual Achievement category—Small Business Specialist of the Year—for doubling her unit's small business contract awards since fiscal 2002.

"I think it's important to DoD to show that small business is capable beyond such a small, confining word as 'small,'" Bryant said. "They are extraordinary in so very many ways.

"This is not an award for me," Bryant said. "This is an award for all the strong, capable small businesses out there."

Other recipients of DoD's 2004 awards were:

Individual Achievement

- Reinette Alecozay, Randolph Air Force Base, Texas, Small Business Contracting Professional of the Year
- U.S. Army Maneuver Ammunition Systems Team: Col. Mark Rider, Bill Sanville, Robert Crawford, Lt. Col. Matt Butler, Robert Kowalski, Mary Crosson, Maj. Bruce Floersheim, and Kimberly Ritacco, Small Business Program Manager of the Year.

Strategic Management System Awards

- U.S. Army, Outstanding Small Disadvantaged Business Participation Program
- Defense Threat Reduction Agency, Outstanding Small Disadvantaged Business Participation Program
- U.S. Army, Outstanding Historically Underutilized Business Zone Program
- Defense Finance and Accounting Service, Outstanding HUBZone Program
- Defense Logistics Agency, Outstanding Support of Women-Owned Small Businesses in DoD Acquisition
- Defense Advanced Research Projects Agency, Outstanding Support of Women-Owned Small Businesses in DoD Acquisition
- U.S. Air Force, Overall Outstanding Small Business Program Award
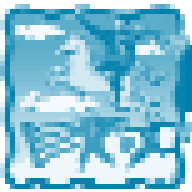- Defense Intelligence Agency, Overall Outstanding Small Business Program Award.

Additional information on the Department of Defense Small and Disadvantaged Business Utilization programs is available at <http://www.acq.osd.mil/sadbu/overview/index.htm >.

U.S. ARMY DEVELOPMENTAL TEST COMMAND (DECEMBER 2005)
TEST DIRECTOR AT YUMA PROVING GROUND IN ARIZONA PLAYS KEY ROLE IN ARMY ACQUISITION PROGRAM
Mike Cast

Julio Dominguez, director of testing at the Army's Yuma Proving Ground (YPG) in Arizona, has spent more than 20 years working on test programs for the Army, in part because his life in the Marine Corps helped to instill an appreciation for the needs of people in uniform. In December his efforts on behalf of the Army earned him an Army award for meritorious civilian service.

"When I was in the Marine Corps, I worked with munitions and artillery," he said during a recent interview. "I found out the Army needed artillery test engineers, so I jumped at the opportunity to work in that arena. I left the Marine Corps, but I have always felt a strong bond to Marines, and to soldiers too."

Dominguez, a native of New Mexico who began his testing career at Yuma in 1985, served the Marine Corps in locations as diverse as southern California, the Philippines, and Okinawa. While in service, he attained the rank of sergeant and earned the airborne patch.

His educational achievements include a bachelor of science degree in engineering from the New Mexico Institute of Mining and Technology; a master of science degree in gun-system design from the Royal Military College of Science at Cranfield, Great Britain; and a master's degree in management from Northern Arizona University. He also completed the Senior Executive Fellowship program at Harvard's John F. Kennedy School of Government. As a member of the Army Acquisition Corps, he is certified in test and evaluation.

His keen interest in guns prompted him to spend a year in England getting one of his master's degrees, an effort that was all the more challenging because he had earned his bachelor's degree 14 years earlier. "That's a big time separation, especially for the subjects you don't use on a day-to-day basis in your life or on your job," he said. "It was challenging, but also a lot of fun to study guns, which I had been interested in since I was a kid."

He paid out-of-pocket expenses to bring his family to England and have them live with him while he earned his master's degree, but his studies kept him too busy to do much traveling or sightseeing with them.

Dominguez began his career as an artillery test-project engineer, then became the chief of the Munitions Branch, after which he became chief of the Munitions and Weapons Division before becoming director of Ground Combat Systems. He said he has worked on every major artillery test program at YPG over the past 20 years, including programs to field the Paladin Self-Propelled Howitzer, the Sense-and-Destroy Armor munitions, the Crusader Self-Propelled Howitzer, and the recent testing of the XM982 Excalibur, the Army's precision-guided, extended-range projectile.
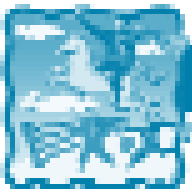

Pictured in December 2005 in his office at Yuma Proving Ground, Ariz., is Julio Dominguez, who received an award for meritorious civilian service in his role as director of testing at the U.S. Army Developmental Test Command.
Photo courtesy U.S. Army Developmental Test Command.

The importance of his work to the welfare of soldiers is something that motivates him, he said, especially now that U.S. forces are fighting terrorism in Afghanistan and Iraq. A career-enhancing assignment at the Developmental Test Command (DTC) as acting director of DTC's Directorate of Test Management made it clear to him that people in DTC headquarters and various other organizations headed by the Army Test and Evaluation Command (ATEC) have the same level of commitment.

"There were times when I came into the office (at DTC) very early, and there were times when I left very late, and not a single time was I the only person in the place," he said. "I found that people were completely and absolutely dedicated to what they do. There is an innate

knowledge that what we do is very important, and we know why's it's important."

When a military system is being considered for Army acquisition, the Army Test and Evaluation Command's evaluators must provide a thorough and objective System Evaluation Report to key decision makers—an appraisal free of lobbying by defense contractors, political figures, or other system proponents. ATEC System Teams—which include testers and evaluators, test managers, the managers of Army acquisition programs, and a variety of other Army organizations—collaborate to give evaluators the data they need to report system performance accurately and fairly. Dominguez said his work at DTC headquarters gave him a greater appreciation for the way in which ATEC System Teams work to ensure the Army acquires the systems that soldiers need. His assignment at DTC also helped him understand some of the issues that confront a headquarters staff.

"I learned more deeply than I already knew the role that test managers play in ATEC System Teams," he said. "Down at the test center, I certainly had a more limited view of what these people do. Having been at (DTC headquarters) and having worked with them, I now have a very good understanding of how they do what they do and the great value they add to the Army test process."

The learning process was not one sided. "I think I added a little perspective from the field," he said. "A lot of the test managers at the headquarters level come from working at test centers, but not all of them do, and I think I provided some education where possible." He said his assignment at DTC also gave him the personal satisfaction of working with test and evaluation professionals on programs crucial to the Army.

"I had the privilege of being involved in decisions concerning the Army's Future Combat Systems, which is the most important program in the Army's future," he explained. "I was also privileged to have involvement with the up-armored vehicle efforts and other things going into the war theater."

The fielding of technologies designed to combat the menace of "improvised explosive devices"—the Army's lingo for the home-made explosive devices that insurgents are using to kill and maim U.S. servicemembers in Iraq and Afghanistan—is a key focus for the Army's testers and evaluators as well as Army leadership. There has been

an "absolute" commitment to that program at DTC and other ATEC organizations, Dominguez said.

Dominguez said his greatest reward has been the opportunity to work with dedicated professionals. He credited their efforts, more than his, for his recent award. "I've got a great bunch of people who work with me," he said. "They are dedicated crews who are willing to do whatever is needed for the soldier."

Cast is a Public Affairs Specialist with U.S. Army Developmental Test Command, Aberdeen Proving Ground, Md.

PEO EIS NEWS RELEASE (NOV. 1, 2005)
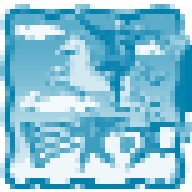### STANDARD PROCUREMENT SYSTEM WINS CIO ENTERPRISE VALUE AWARD

FORT BELVOIR, Va.—Program Executive Office Enterprise Information Systems (PEO EIS) announced today that *CIO Magazine* selected the Standard Procurement System (SPS) as the government winner of the magazine's 14th Annual CIO Enterprise Value Awards. The CIO Enterprise Value Awards are presented annually to one organization in each participating industry. The winners demonstrate the best use of sound, innovative information technology techniques to achieve business objectives.

SPS develops a suite of software products that automates and standardizes the procurement process across the Department of Defense. The software supports more than 23,000 DoD procurement personnel throughout the United States and in 15 countries. SPS is the first and only Department-wide standard business system recognized by DoD.

"SPS is a key component of DoD's business transformation efforts. The program brings efficiency to the procurement process, speeding delivery of goods and services to America's warfighters in locations around the world. We are honored to receive this award and to be included in a category of such elite winners," said SPS program manager Army Col. Quentin Peach.

About the Standard Procurement System (SPS)
SPS began in 1997 as a DoD initiative to replace more than 70 diverse contract-writing systems with a standard system that would provide a technology-based solution to DoD's financial management challenges. First deployed in 1997, SPS is currently used by 23,000 + DoD contracting professionals in approximately 800 locations worldwide. SPS provides a standard, automated pro-

curement process that integrates seamlessly with other defense financial and logistics software systems. SPS will be formally transferred to the Defense Business Transformation Agency in 2006.

Learn more about SPS at <http://www.spscoe.sps.eis.army.mil/ >.

NAVAL SUPPLY SYSTEMS COMMAND OFFICE OF CORPORATE COMMUNICATIONS (NOV. 23, 2005)
TWO NAVICP TEAMS RECOGNIZED WITH DOD PERFORMANCE BASED LOGISTICS AWARDS

Two Naval Inventory Control Point (NAVICP)-led performance-based logistics (PBL) teams were recently announced by the secretary of defense as winners in the first annual Secretary of Defense PBL Awards competition. The Awards spotlight significant PBL successes and encourage greater use of PBL throughout the Department of Defense. DoD uses PBL to improve weapons systems readiness by using the best mix of DoD and industry resources to operate and maintain weapons systems at reduced cost over their useful lives. Winners are selected from three award categories: system level, sub-system level, and component level.

The two Navy teams are the Navy/General Electric (GE) F404 PBL Team (sub-system level winner), and the Navy/Honeywell Auxiliary Power Unit Total Logistics Support (APU/TLS) PBL Team (component level winner). Represented on the Navy/GE team are NAVICP, Naval Air Systems Command (NAVAIR), NAVAIR Depot Jacksonville, Fla., and GE. The Navy/Honeywell team consists of NAVICP, NAVAIR, NAVAIR Depots Cherry Point, N.C., and Jacksonville, Fla., and Honeywell.

The teams were selected from numerous submissions from all Services. Their innovative logistics support solutions significantly increased the readiness of the Navy's front line fighter aircraft, the F/A-18 Hornet, and that of other Navy aircraft, and reduced the cost to operate and maintain those aircraft over their useful lives.

The F404 engine, which powers the F/A-18 Hornet, currently stands at its highest level of combat readiness and customer satisfaction since its introduction to the fleet. The Navy/Honeywell team, whose best practices are now shared across DoD and industry, led the way for PBL with unprecedented program performance.

"PBLs are the most significant change in fleet support process I can recall," said Rear Adm. Michael S. Roesner, commander, NAVICP. "They have provided excellent solutions to longstanding material problems. I believe they have significantly improved readiness."

The teams received their awards at the Aerospace Industries Association (AIA) Fall Product Support Conference held at Hilton Head, S.C., Nov. 7–9, 2005. NAVICP, which is the largest field activity of the Naval Supply Systems Command (NAVSUP), procures, manages, and supplies spare parts of naval aircraft, submarines, and ships worldwide. NAVICP is responsible for over 400,000 items of supply, $21 billion of inventory, and annual sales of $4.2 billion. It has two locations: one in the Lawncrest section of Northeast Philadelphia and the other in Mechanicsburg, just outside Harrisburg, Pa.

NAVSUP's primary mission is to provide U.S. naval forces with quality supplies and services. With headquarters in Mechanicsburg, Pa., and employing a worldwide work force of more than 24,000 military and civilian personnel, NAVSUP oversees logistics programs in the areas of supply operations, conventional ordnance, contracting, resale, fuel, transportation, and security assistance. In addition, NAVSUP is responsible for quality of life issues for our naval forces, including food service, postal services, Navy Exchanges, and movement of household goods.

Media contact is Cathy Partusch, Director, NAVSUP Office of Corporate Communications, at cathy.partusch@navy.mil.
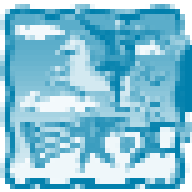
AIR FORCE PERSONNEL CENTER NEWS SERVICE (DEC. 14, 2005)
AIR FORCE NAMES 2005 SIJAN AWARD RECIPIENTS

RANDOLPH AIR FORCE BASE, Texas (AFPN)—The Air Force recognized four airmen with the Service's 2005 Lance P. Sijan Air Force Leadership Award.

The Sijan award annually recognizes Airmen who demonstrate outstanding leadership abilities while assigned to organizations at the wing level or below.

The 2005 recipients are:
Senior officer—Lt. Col. Gerald J. Ven Dange, Defense Contract Management Agency West at Redondo Beach, Calif. The Air Force recognized Ven Dange for his support of the Iraqi theater transportation mission that provided more than 80 percent of all cargo transiting Iraq

for use by coalition forces. His technical expertise, leadership, and guidance helped achieve mission success in support of warfighters.

Junior officer—Capt. William M. Dains, Wright-Patterson Air Force Base, Ohio. Dains managed supply, logistical, maintenance, and detainee movements in Iraq. He built and organized a combat convoy section from scratch that included mission binders, strip and grid maps, and an in-depth 60-page standard operating procedure guide. During his tour, Dains executed 1,200 missions and transported 20,000 passengers over 60,000 miles of dangerous Iraqi roadways.

Senior enlisted—Master Sgt. Ramon Colon-Lopez, Kirtland AFB, N.M. Colon-Lopez trained and led an elite element of handpicked operators in multiple direct-action missions against terrorist organizations in support of the global war on terrorism. As the director of training at the pararescue school, he led a cadre of pararescuemen and survival, evasion, resistance, and escape instructors in the largest premier rescue school in the Defense Department. His leadership helped ensure the safe training and education of more than 150 pararescue and combat rescue officer students per year.

Junior enlisted—Senior Airman Grailin M. Blamer, Fort Lewis, Wash. Airman Blamer provided advice and close-air-support command and control during a six-month combat tour in support of Operation Iraqi Freedom. His actions and calm demeanor while under enemy fire led to the destruction of enemy combatants and saved countless coalition lives.

The Sijan award was first given in 1981. It was named in honor of the first U.S. Air Force Academy graduate to receive the Medal of Honor. Capt. Sijan was shot down over Vietnam on Nov. 9, 1967, and evaded capture for 45 days despite severe injuries. After being captured, he overpowered a guard and crawled into the jungle, but was recaptured. He later died while in a Vietnamese prisoner-of-war camp. He was presented the Medal of Honor posthumously for his heroism.

AIR FORCE PRINT NEWS (DEC. 14, 2005)
AIRMEN EARN AWARDS FOR INNOVATIONS, IMPROVEMENTS

WASHINGTON (AFPN)—Airmen from seven major commands received the Chief of Staff Team Excellence Awards (CSTEA) and Air Force Best Practice certificates for mission process improvements.

Secretary of the Air Force Michael W. Wynne and Deputy Chief of Staff for Personnel Gen. Roger A. Brady presented the trophies and certificates to the winners in a ceremony at the Pentagon Dec. 13.

The awards recognize teams that use a systematic approach to enhance mission capability, improve operational performance, and create sustained results.

"We're making a push for continuous process improvement," Wynne said. "And, (your) doing it as a team is a wonderful event. We are extremely proud of you."

Five teams received the excellence awards. Six teams received the Air Force Best Practice certificate.

The award winners are:

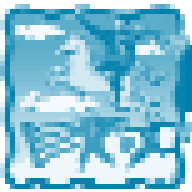| Air Force Chief of Staff Team Excellence Award |
| :---: |
| **Operational Procedure Emulator Team, 381st Training Group, Vandenberg Air Force Base, Calif., Air Education and Training Command** |

By developing a Web-based interactive personal emulator, the team enhanced the technical training mission for intercontinental ballistic missile operators. The Operational Procedures Emulator for Academic Training provides students with instant hands-on application. The training has led to a 42 percent improvement in comprehension and a 20 percent increase in proficiency.

Team members are: Lt. Col. Wayne R. Monteith, Capt. Jimmy K. Brown, Capt. Karl Basham, Capt Jared Nelson, Capt. Casimiro Benevidez III, Capt. John Sill, Capt. John Bales, Capt. Ryan Surroz, Capt. Joel Bius, Capt. Mike Maciejewski, Capt. Eric Talcott, Linda Hill, Roger Toney, Alex Aranda, and John Barnes.

Air Force Chief of Staff Team Excellence Award and Air Force Best Practice Winner
Wheel and Tire Production Team, 62nd Maintenance Squadron, McChord AFB, Wash. Air Mobility Command

This team found a better way to tear down, build up, and supply C-17 Globemaster III aircraft wheel and tire assemblies. An assembly had spent 19 hours and 34 minutes in transportation or holding areas during issue or turn-in. Technology upgrades eliminated manual labor, and process enhancements optimized flow. The team cut the build up and tear down process time 67 percent, enabling a wheel and tire section of 11 people to operate with five. The team then established one central supply point. This cut a 16-step supply process to five steps,

reducing the issue and turn-in time 93 percent, and enabling an 11-person supply team to operate with four people.

Team members are: Capt. Jason R. York, 1st Lt. Garrett W. Knowlan, Chief Master Sgt. Jeffrey E. Mckenzie, Master Sgt. Randolph Marks, Master Sgt. Teresa A. Myers, Master Sgt. Archie S. Vance, Tech Sgt. Michael L. Brown, Staff Sgt. Robert J. Gray, Staff Sgt. David G. Gallegos, Staff Sgt. Lawrence C. Volstorf, Staff Sgt. Kevin S. Cloyd, Staff Sgt. Shawn A. Kubo, Staff Sgt. Tanya S. Polzin, Staff Sgt. Carlos J. Lewis, Senior Airman Alexander Rojas, Senior Airman Rodney P. Sasina, Senior Airman Derek M. Welinski, Senior Airman Adam L. Hardgrove, Airman 1st Class Ghassan M. Khan, Airman 1st Class Erich A. Boehm, Airman 1st Class Michael W. Naramore, Airman 1st Class Jesse J. Hope, Steven E. Rector, Bryan L. Owen, Barry A. Frerichs, Carole L. Kaser, Janice E. Barker, Roxane Crafton, and Daniel Benjamin.

Air Force Chief of Staff Team Excellence Award and
Air Force Best Practice Winner
Aging Aircraft Wire/Component Test Team,
4th Component Maintenance Squadron, Seymour
Johnson AFB, N.C., Air Combat Command

This team identified that over 34 percent of all F-15 Strike Eagle aircraft discrepancies are a result of an electrical problem. The team researched and procured a commercial tester. Use of the wiring analyzer has saved more than 9,000 manhours and more than $269,000 in its first six months. Additionally, they now have the ability to write programs and export them via e-mail as successfully performed during Operation Iraqi Freedom. Airmen from Eglin AFB, Fla., and Pope AFB, S.C., have received training to use the tester on the F-15 Eagle and A-10 Thunderbolt II.

Team members are: 1st Lt. Christopher E. Sweet, 1st Lt. David M. Grassie, Master Sgt. Stephen W. Hoggard, Tech. Sgt. David M. Roberts, Staff Sgt. Shawn H. Speirs, Staff Sgt. Timothy M. Weaver, Airman 1st Class Seth T. Evans, and Tom Jordan.

Air Force Chief of Staff Team Excellence Award and
Air Force Best Practice Winner
Space Power Lab Team, National Security Space
Institute, Colorado Springs, Colo.
Air Force Space Command

The Space Power Lab identified the need to improve the training processes at the NSSI, and developed a scenario-based interactive modeling and simulation environment stressing creative thinking and collaborative problem solving. Nine of the 13 space educational courses conducted at the NSSI use the Space Power Lab to reinforce classroom concepts. Students immersed in the Space Power Lab gain an appreciation for the complexity of war planning, the dynamics involved in executing these plans, and the overall integration of space capabilities.

Team members are: Lt. Col. Mark L. Adkins, Master Sgt. James S. Bonner, Curtis Whitlow, Gregg Chambers, Jason Steers, Ruben Fritts, and David McKeeby.
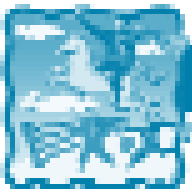

Air Force Chief of Staff Team Excellence Award and
Air Force Best Practice Winner
Enterprise Weapon Systems Certification Team,
Computer Systems Squadron, Hickam AFB, Hawaii
Pacific Air Forces

The command's Computer Systems Squadron leadership became aware of a serious deficiency in mission crew position certifications. As indicated by inspections, less than 10 percent of all mission crews completed mission qualification training or successfully passed the mission qualification examination. The team researched industry best practices and created an enterprise network weapons simulator, the Advanced Theater Training and Certification Center, based on the creative use of new technology saving $2 million and 8,000 manhours. Use of the simulator reduced training time by 45 percent.

Team Members are: Ammon Leeson, 1st Lt. Tiffiny Smith, Senior Master Sgt. James Goss, Tech. Sgt. David M. Miller, Tech. Sgt. Steven Delong, Staff Sgt. Brian G. Brown, Staff Sgt. Noelle Turk, and Allen Hill.

Air Force Best Practice Winner
The OpsNet Team, 340th Flying Training Group,
Randolph AFB, Texas,
Air Force Reserve Command

This team developed a suite of Web-based reservist management tools called OpsNet. The OpsNet tools streamlined administrative control workload by 80 percent, allowing the 340th FTG to redirect over 1,950 man days per year back to the primary mission. This generated a cost avoidance of $487,500 per year. The OpsNet team generated a validated return on investment of 2,000 percent in man-day savings in 2003 and 2004. The 10-year ROI is projected at 7,400 percent. The tools created by the OpsNet team have become the foundation for a new AFRC command-wide effort to field Web-based reservist management tools called ReserveNet.

This team enhanced the repair and overhaul process for the F-15 central gearbox product family by using a three-phase approach to lean manufacturing within the maintenance, repair, and overhaul environment. Flow days reduced from 95 days to 24 days. The end-item sales price for two different central gearbox models has reduced costs 18 percent and 54 percent. The process saved the Air Force $5.1 million the first year. A 25 percent reduction of aircraft downtime has been achieved and sustained.

U.S. AIR FORCES IN EUROPE PUBLIC AFFAIRS (DEC. 29, 2005)
WYNNE: MORE INTEGRATED OPERATIONS IN AIR FORCE'S FUTURE

1st Lt. Elizabeth Culbertson, USAF

RAMSTEIN AIR BASE, Germany (AFPN)—The secretary of the Air Force said the Service is headed toward more integrated operations. Secretary of the Air Force Michael W. Wynne stopped at this airlift base Dec. 23 after trips to bases in Southwest Asia and Germany. He talked about the importance of force integration, new weapons platforms and Air Force people.

"We used to talk about the future total force. I think we need to stop that. The total force is now," he said.

Wynne said he noticed during his trip that units of active duty, guard, and reserve airmen were fully integrated to complete the mission—whether at Balad Air Base in Iraq or at Landstuhl Regional Medical Center, Germany.

"It is an amalgamated force that we're fighting with today," he said. "It was hard to tell who was a reservist, who was active, and who was a National Guardsman."

The total force concept aims to tap into the inherent strength and experience of all three Air Force components to increase overall combat capability.

The secretary said airmen have only to look to the new F-22A Raptor unit to see the Service's recognition of the importance of total force.

"It is truly an historic event that we are standing up our finest weapons system, the F-22A, in an associate guard and active wing. This is where the Air Force is going … and it's going there in a hurry," he said.

Wynne said the announcement that the F-22A achieved initial operational capability is the "end of a quest" lasting more than 20 years. "This is a capstone moment, when we finally achieve stealth, speed, and precision in one platform," he said.

The secretary also mentioned the next fighter platform, the Joint Strike Fighter. "I want to make sure that (the F-22A) is available to our country until we get another fifth generation fighter—the Joint Strike Fighter—operationally ready," he said.

Wynne said no matter what platform it uses, the Air Force's greatest strength remains its airmen. "[The Air Force] has developed incredibly capable, innovative, and I would say, inquisitive airmen," he said.

Wynne described Air Force maintainers in Iraq recruited to up-armor vehicles. Now, he said, the manufacturer sends these airmen prototypes to evaluate. "The innovations that the airmen bring are our single greatest accomplishment," he said.

Airmen are also functioning in an increasingly joint environment, the secretary said. They operate with the Navy, Army, and Marine Corps in Operation Iraqi Freedom and Operation Enduring Freedom. "This war is about a joint fight, more than anything else we have seen. It is a remarkable synergy. What airmen bring to a joint fight is the unique capability and capacity to innovate and understand airpower," he said.

Wynne said in the coming year he hopes to see airmen embrace the new Air Force mission statement and become more proficient at delivering sovereign options for America through air, space, and cyberspace.

"What I want is to make sure that the airmen are very knowledgeable and that they are accountable at the end of the day to do what they say and say what they do," he said. "Master that—become knowledgeable, provide your great innovative and creative ideas on behalf of the joint force and the joint fight, and America will be better off for it, and I think the world will be better off for it."

Culbertson is with U.S. Air Forces in Europe Public Affairs, Ramstein Air Base, Germany.
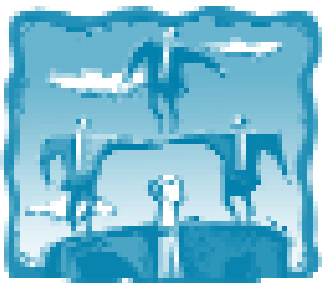
AT&L Workforce—
Key Leadership Changes

U.S. ARMY ACQUISITION SUPPORT CENTER (OCT. 24, 2005)
TARDEC NAMES FREEMAN ACTING EXECUTIVE DIRECTOR FOR RESEARCH AND TECHNICAL DIRECTOR

The U.S. Army's Tank Automotive Research, Development, and Engineering Center (TARDEC) announced the appointment of Dr. Marilyn Freeman as both acting executive director of TARDEC's Research Business Group and technical director responsible for the alignment of ground systems science and technology research initiatives to meet the Army's current and future warfighting and sustainment needs.

Freeman replaces current acting executive director Michael Zoltoski, who is leaving for the U.S. Army Research Laboratory's Weapons Materials Research Directorate. She also will assume the provisional role of technical director while Dr. Grace Bochenek is on assignment as deputy program executive officer for Combat Support and Combat Service Support.

"Dr. Freeman's breadth of technical expertise and vast knowledge of Army science and technology will be a great asset to TARDEC," said Dr. Richard McClelland, TARDEC director. "The selection of Dr. Freeman continues to demonstrate TARDEC's commitment to grow leaders through cross-training and to build and maintain organizational partnerships within our parent organization, the U.S. Army Research, Development, and Engineering Command."

Freeman comes to TARDEC after four years as the deputy director for Armament, Combat Vehicle, and Future Combat Systems (FCS) Technologies for the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology, ASA(ALT). Prior to working at ASA(ALT), Freeman was assigned to the Defense Advanced Research Projects Agency as a program manager in the Tactical Technology Office. She was also PM for the Combat Hybrid Power Systems program and served as the technical director of the DARPA/Army FCS program. Freeman has a Ph.D. in materials science and engineering from the University of Texas at Austin.

ARMY NEWS SERVICE (OCT. 31, 2005)
ARMY APPOINTS NEW LOGISTICS OFFICER (G4)

WASHINGTON—On Oct. 27, Army Maj. Gen. Ann E. Dunwoody was promoted to the rank of lieutenant general at a Pentagon ceremony hosted by the chief of staff of the Army, Gen. Peter Schoomaker. Upon her promotion, Dunwoody assumed duties as deputy chief of staff, Army G-4. The Army G-4 is the logistics focal point for the Army staff with the mission of enhancing soldiers' logistics readiness by providing policies, programs, and oversight.

Dunwoody recently served as the commanding general, United States Army Combined Arms Support Command and Fort Lee, Fort Lee, Va., a position she had held since September 2004. Other significant assignments include commander, Surface Deployment and Distribution Command from October 2002 to August 2004; commander, 1st Corps Support Command from July 2000 to August 2002; commander, 10th Mountain Division (Light Infantry) Support Command from June 1996 to June 1998; and commander, 782d Main Support Battalion, 82d Airborne Division from May 1993 to May 1994.
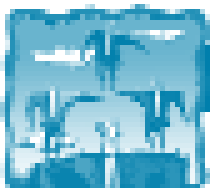
DEPARTMENT OF DEFENSE NEWS RELEASE (NOV. 2, 2005)
GENERAL OFFICER ASSIGNMENTS

The chief of staff, Air Force announces the assignments of the following senior leaders:

Maj. Gen. Darryl A. Scott, commander, Defense Contract Management Agency, Alexandria, Va., to commander, Joint Contracting Command, Multi-National Forces-Iraq.

Brig. Gen. Michael J. Basla, deputy director, operational support modernization, Office of Warfighting Integration and Chief Information Officer, Pentagon, Washington, D.C., to director, command, control, communications, and computer systems, J-6, U. S. Transportation Command, Scott Air Force Base, Ill.

Brig. Gen. Gary S. Connor, commander, Command, Control, Intelligence, Surveillance and Reconnaissance Wing, Electronic Systems Center, Air Force Materiel Command, Hanscom Air Force Base, Mass., to deputy chief of staff, computer information systems, Multi-National Forces - Iraq.

AIR FORCE PRINT NEWS (NOV. 3, 2005)
WYNNE SWORN IN AS 21ST AIR FORCE SECRETARY

U.S. AIR FORCE ACADEMY, Colo. (AFPN)—Michael W. Wynne was sworn in, in front of 4,200 U.S. Air Force Academy cadets, during their noontime meal, as the 21st secretary of the Air Force.

In this role, he is responsible for the affairs of the Department of the Air Force, including organizing, training, equipping, and providing for the welfare of its nearly 370,000 men and women on active duty, 180,000 members of the Air National Guard and the Air Force Reserve, and 160,000 civilians and their families.

As head of the Department of the Air Force, Wynne is responsible for its functioning and efficiency, the formulation of its policies and programs, and the timely implementation of decisions and instructions of the president of the United States and the secretary of defense.

Wynne replaces Pete Geren, who has served as the acting secretary of the Air Force since July 29.

"I am grateful for the opportunity to serve alongside America's airmen and their Joint Service partners to keep our nation safe," Wynne said. "With their dedication, skill, and sacrifice, they offer an incredible array of options to the president and the nation—from taking the fight to the enemy, providing strategic intelligence to the joint force, or providing humanitarian assistance at home and internationally in the wake of natural disasters."

Prior to appointment, Wynne served in the Department of Defense as the principal deputy under secretary of defense for acquisition, technology and logistics.

Wynne served in the Air Force for seven years, ending his service as a captain and assistant professor of astronautics at the U.S. Air Force Academy.

Wynne graduated from the United States Military Academy and also holds a master's in electrical engineering from the Air Force Institute of Technology and a master's in business from the University of Colorado.

DEPARTMENT OF DEFENSE NEWS RELEASE (NOV. 10, 2005)
FLAG OFFICER ASSIGNMENT

**C**hief of Naval Operations Adm. Mike Mullen announced the following flag officer assignment:

Rear Adm. (lower half) (selectee) Timothy V. Flynn is being assigned as vice commander, Space and Naval Warfare Systems Command, San Diego, Calif. Flynn is currently serving as special assistant to commander, Space and Naval Warfare Systems Command, San Diego, Calif.

DEPARTMENT OF DEFENSE NEWS RELEASE (NOV. 18, 2005)
FLAG OFFICER ASSIGNMENT

Chief of Naval Operations Adm. Mike Mullen announced the following flag officer assignment:

Rear Adm. William E. Landay III is being assigned as chief of naval research/director, test and evaluation and technology requirements, N091, Office of the Chief of Naval Operations, Washington, D.C. Landay is currently
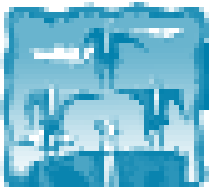
serving as program executive officer for littoral and mine warfare, Washington, D.C.

DEPARTMENT OF DEFENSE NEWS RELEASE (NOV. 18, 2005)
GENERAL OFFICER ANNOUNCEMENTS

Secretary of Defense Donald H. Rumsfeld announced today that the president has made the following nominations:

Army Brig. Gen. Paul S. Izzo for promotion to the grade of major general. Izzo is currently serving as commanding general, Picatinny Arsenal, N.J./program executive officer, ammunition.

Army Brig. Gen. Robert M. Radin for promotion to the grade of major general. Radin is currently serving as deputy chief of staff for logistics and operations, U.S. Army Materiel Command, Fort Belvoir, Va.

MISSILE DEFENSE AGENCY (NOV. 22, 2005)
REAR ADM. HICKS RELIEVES REAR ADM. PAIGE AS COMMANDER AND PROGRAM DIRECTOR OF AEGIS BMD

Air Force Lieutenant General Henry "Trey" Obering, Missile Defense Agency director, announced today that Rear Adm. Alan B. Hicks relieves Rear Adm. Kathleen K. Paige as the commander and program director of Aegis Ballistic Missile Defense (BMD). The change of command took place at a Nov. 22 ceremony in Arlington, Va.

The ceremony also marked Paige's retirement after 34 years of service. Her tenure at the helm of Aegis BMD was filled with many firsts. As the plank-owner program director, she was responsible for putting the initial increment of Aegis BMD to sea. She led the development and deployment of the world's first sea-based ballistic missile defense capability: a long-range surveillance and tracking (LRS&T) system that reports flight information on intercontinental ballistic missiles to the Ballistic Missile Defense System's land-based ballistic missile engagement capability. Her disciplined systems engineering approach and leadership resulted in repeated firing mission successes while increasing the operational realism of each test to establish Aegis BMD's legacy to "test how we fight."

Her program testing successes were key to meeting a challenging schedule to get the Standard Missile-3 (SM-

3) Initial Deployment Rounds and the world's first sea-based engagement capability against short- and medium-range ballistic missiles to the fleet.

By the end of her tenure, she had firmly established Aegis BMD's "We Deliver" reputation throughout the missile defense community with 11 ships fitted with the Long Range Surveillance and Track capability and two ships with the ballistic missile engagement capability. Aegis BMD's accomplishments and the system's promise were validated by the decision of the Government of Japan to invest in the Aegis BMD capability for two of its Aegis destroyers.

In March 2005, concurrent with her program director, Aegis BMD assignment, Paige was selected by the director, Missile Defense Agency to be the first director of Mission Readiness. She assembled and led the Mission Readiness Task Force that reviewed, assessed, and then implemented a rigorous systems engineering approach to the in-service ground-based missile defense flight test program. Her performance as director of Mission Readiness increased congressional and warfighter confidence in the weapon system's readiness and its ability to perform a mission whenever called upon.

At the ceremony, Paige was presented the Defense Superior Service Medal for her "outstanding leadership and ceaseless efforts resulting in major contributions to the national security of the United States."

*Media contact is Chris Taylor, Missile Defense Agency, (703) 697-8001.*

U.S. ARMY ACQUISITION SUPPORT CENTER (NOV. 13, 2005)
SENIOR EXECUTIVE SERVICE SELECTION

On behalf of Claude M. Bolton Jr., assistant secretary of the Army for acquisition, logistics and technology, ASA(ALT) and Army acquisition executive, Col. Ainsworth B. Mills announced that Thomas E. Mullins has been selected for the Senior Executive Service and named the deputy assistant secretary of the Army (DASA) for plans, programs, and resources, effective Nov. 13, 2005.

"Mr. Mullins brings a wealth of leadership, knowledge, experience, and judgment to this critical duty assignment, garnered from more than 30 years of active military and civil service," said Mills, chief of staff, Office of the ASA(ALT).
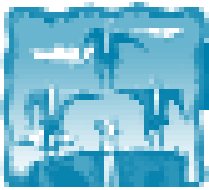
Mullins is a graduate of Central State University of Oklahoma with a B.S. in physics and mathematics and an M.S. in management from the Naval Postgraduate School. He is Level III certified in program management.

Mullins previously served as the deputy director for plans, programs and resources under the DASA (plans, programs, and policy) at Headquarters Department of the Army. He has a wealth of operational field experience serving as the program executive office representative for Armaments and Global Combat Support Systems/Ground Combat Systems. He also completed a 20-year military career serving as a field artillery officer at numerous command and staff positions.

Media contact is Mike Roddin, Director, Strategic Communications, U.S. Army Acquisition Support Center, (703) 805-1035 or e-mail michael.roddin@asc.belvoir.army.mil.

GENERAL SERVICES ADMINISTRATION NEWS RELEASE (NOV. 28, 2005)
WAGNER TO BECOME ACTING COMMISSIONER FOR GSA'S FEDERAL ACQUISITION SERVICE

Washington, D.C.—Marty Wagner, currently associate administrator for the U.S. General Services Administration's Office of Governmentwide Policy (OGP), will become acting commissioner of the Federal Acquisition Service (FAS) on Dec. 21 replacing Barbara Shelton, who will return to her position as GSA regional administrator, Mid-Atlantic Region.

Shelton came to Washington in February 2005 as acting commissioner of the Federal Technology Service (FTS). She has been acting FAS commissioner since June 2005 and led the ongoing effort to design and establish the new Service. The FAS organization was officially established by GSA order in September 2005. During the transition period, Shelton served concurrently as acting commissioner of FTS and acting commissioner of the Federal Supply Service (FSS). She assumed the national headquarters positions after three years as GSA Mid-Atlantic Regional Administrator.

Acting GSA administrator David Bibb praised Shelton's time with FAS noting that: "Barbara has been the heart and soul of the work done to establish the Federal Acquisition Service. She stepped into a very challenging role and helped create a new-look U.S. General Services Administration that will be better able to serve our customers and by extension, the American people."

Bibb also said that he is looking forward to working with Wagner in his new position.

"Marty and I have had a good and productive working relationship for many years. He is definitely the right person to carry this work forward as we drive ahead to complete the reorganization," said Bibb.

Marty Wagner has been the associate administrator for Governmentwide Policy since 1995, where he has played an instrumental role in improving the government's management policies and in developing innovative approaches to providing services throughout the government.

Prior to his role with OGP, Wagner served as deputy commissioner for the Information Resources Management Service from 1990 to 1995, where he managed what became the Federal Technology Service as well as the information technology schedules in the Federal Supply Service.

John Sindelar, currently the deputy associate administrator for OGP, will serve as acting associate administrator of the organization in Wagner's absence.

DEPARTMENT OF DEFENSE NEWS RELEASE (DEC. 5, 2005)
FLAG OFFICER ASSIGNMENT

Chief of Naval Operations Adm. Mike Mullen announced the following flag officer assignment:

Rear Adm. (lower half) Michael C. Bachmann is being assigned as commander, Space and Naval Warfare Systems Command, San Diego, Calif. Bachmann is currently serving as vice commander, Naval Air Systems Command, Washington, D.C.

CIVILIAN NOMINATION IN SENATE COMMITTEE (DEC. 20, 2005)

The following civilian nomination submitted by the president to the Senate for confirmation during the current Congress is currently undergoing committee consideration:

IN THE COMMITTEE ON ARMED SERVICES

Dec. 20, 2005, PN1143, Department of Defense, James I. Finley, of Minnesota, to be Deputy Under Secretary of Defense for Acquisition and Technology.

A former defense industry executive, Finley has worked in a managerial capacity for GE, Singer, Lear Siegler,
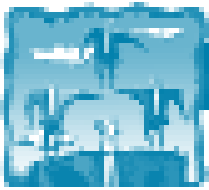
United Technologies, and General Dynamics. Finley is now president of a consulting company he founded in 2002, The Finley Group.

A Minnesota native, he received his bachelor's degree from the Milwaukee School of Engineering and a master's degree from California State University.

If confirmed by the Senate, Finley will serve as deputy to Kenneth Krieg, the Pentagon's top acquisition executive.

AMERICAN FORCES PRESS SERVICE (DEC. 29, 2005)
ACTING DEPUTY DEFENSE SECRETARY RELINQUISHES TOP NAVY POST

WASHINGTON—Acting Deputy Defense Secretary Gordon England has relinquished his post as secretary of the Navy, Defense Department officials announced today.

He will continue to serve as acting deputy secretary of defense, officials said. England has served as Defense Secretary Donald H. Rumsfeld's deputy since May, when former Deputy Defense Secretary Paul Wolfowitz left the Pentagon to head up the World Bank.

Over two terms as Navy secretary, England served a total of 48 months. His terms were separated by his service as the first deputy secretary of the Homeland Security Department. For the past eight months, he has served in both the Navy post and as acting deputy secretary of defense.

"It has been a profound honor to serve with the magnificent men and women of the United States Navy and Marine Corps," England said in a statement issued by the Pentagon.

"I am most privileged to be able to continue serving our armed forces as the deputy to Secretary Rumsfeld."

DEPARTMENT OF DEFENSE NEWS RELEASE (JAN. 3, 2006)
DONALD WINTER SWORN IN AS NEW SECRETARY OF THE NAVY

Donald C. Winter was sworn in today as the 74th secretary of the Navy by Acting Deputy Secretary of Defense Gordon England. In this position, Winter leads the U.S. Navy and Marine Corps team and is responsible for almost 900,000 people and an annual budget in excess of $125 billion.

The secretary of the Navy is responsible for all the affairs of the Department of the Navy, including recruiting, organizing, supplying, equipping, training, mobilizing, and demobilizing. The secretary also oversees the construction, outfitting, and repair of naval ships, equipment, and facilities. The office is also responsible for formulating and implementing naval policies and programs that are consistent with the national security policies and objectives established by the president and the secretary of defense. The Department of the Navy consists of two uniformed services: the U.S. Navy, and the U.S. Marine Corps.

Before joining the Bush administration, Winter served as a corporate vice president and president of Northrop Grumman's Mission Systems sector. In that position, he oversaw operation of the business and its 18,000 employees, providing information technology systems and services; systems engineering and analysis; systems development and integration; scientific, engineering, and technical services; and enterprise management services. Winter also served on the company's corporate policy council.

Previously, Winter served as president and CEO of TRW Systems; vice president and deputy general manager for group development of TRW's Space & Electronics business; and vice president and general manager of the defense systems division of TRW. From 1980 to 1982, he was with the Defense Advanced Research Projects Agency as program manager for space acquisition, tracking, and pointing programs.

Winter earned a bachelor's degree (with highest distinction) in physics from the University of Rochester in 1969. He received a master's degree and a doctorate in physics from the University of Michigan in 1970 and 1972, respectively. He is a 1979 graduate of the University of Southern California Management Policy Institute, a 1987 graduate of the University of California at Los Angeles Executive Program, and a 1991 graduate of the Harvard University Program for Senior Executives in National and International Security.

In 2002, Winter was elected a member of the National Academy of Engineering.

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2006 ACC/SYMPOSIUM, APRIL 18, 2006 AT
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Surfing the Net

Acquisition Community Connection (ACC)
http://acc.dau.mil
Policies, procedures, tools, references, publications, Web links, and lessons learned for risk management, contracting, system engineering, total ownership cost.

Acquisition Reform Network (AcqNet)
www.arnet.gov/
Virtual library; federal acquisition and procurement opportunities; best practices; electronic forums; business opportunities; acquisition training; excluded parties list.

Advanced Concept Technology Demonstrations (ACTDs)
www.acq.osd.mil/actd/
ACTD's accomplishments, articles, speeches, guidelines, and points of contact.

Aging Systems Sustainment and Enabling Technologies (ASSET)
http://asset.okstate.edu/asset/index.html
A government-academic-industry partnership. ASSET program-developed technologies and processes increase the DoD supply base, reduce time and cost associated with parts procurement, and enhance military readiness.

Air Force (Acquisition)
www.safaq.hq.af.mil/
Policy; career development and training opportunities; reducing TOC; library; links.

Air Force Materiel Command (AFMC) Contracting Laboratory's FAR Site
http://farsite.hill.af.mil/
FAR search tool; Commerce Business Daily announcements (CBDNet); Federal Register; electronic forms library.

Army Acquisition Support Center
http://asc.army.mil
News; policy; *Army AL&T* Magazine; programs; career information; events; training opportunities.

Assistant Secretary of the Army (Acquisition, Logistics & Technology)
https://webportal.saalt.army.mil/
ACAT Listing; ASA(ALT) Bulletin; digital documents library; ASA(ALT) organization; links to other Army acquisition sites.

Association for the Advancement of Cost Engineering International (AACE)
www.aacei.org
Promotes planning and management of cost and schedules; online technical library; bookstore; technical development; distance learning; etc.

Association of Old Crows (AOC)
www.crows.org
Association news; conventions, courses; conferences, *Journal of Electronic Defense*.

Commerce Business Daily
http://cbdnet.gpo.gov
Access to current and back issues with search capabilities; business opportunities; interactive yellow pages.

Committee for Purchase from People Who are Blind or Severely Disabled
www.jwod.gov
Information and guidance to federal customers on the requirements of the Javits-Wagner-O'Day (JWOD) Act.

Defense Acquisition University (DAU)
www.dau.mil
DAU Course Catalog; *Defense AT&L* magazine and *Defense Acquisition Review Journal*; course schedule; policy documents; guidebooks; training and education news for the AT&L workforce.

DAU Alumni Association
www.dauaa.org
Acquisition tools and resources; government and related links; career opportunities; member forums.

DAU Distance Learning Courses
www.dau.mil/registrar/enroll.asp
DAU online courses.

Defense Advanced Research Projects Agency (DARPA)
www.darpa.mil
News releases; current solicitations; "Doing Business with DARPA."

Defense Electronic Business Program Office (DEBPO)
www.acq.osd.mil/scst/index.htm
Policy; newsletters; Central Contractor Registration (CCR); assistance centers; DoD EC partners.

Defense Information Systems Agency (DISA)
www.disa.mil
Structure and mission of DISA; Defense Information System Network; Defense Message System; Global Command and Control System.

Defense Modeling and Simulation Office (DMSO)
www.dmso.mil
DoD Modeling and Simulation Master Plan; document library; events; services.

Defense Systems Management College (DSMC)
www.dau.mil
DSMC educational products and services; course schedules; job opportunities.

Defense Technical Information Center (DTIC)
www.dtic.mil/
DTIC's scientific and technical information network (STINET) is one of DoD's largest available repositories of scientific, research, and engineering information. Hosts over 100 DoD Web sites.

Director, Defense Procurement and Acquisition Policy (DPAP)
www.acq.osd.mil/dpap
Procurement and acquisition policy news and events; reference library; DPAP organizational breakout; acquisition education and training policy, guidance.

DoD Defense Standardization Program
www.dsp.dla.mil
DoD standardization; points of contact; FAQs; military specifications and standards reform; newsletters; training; nongovernment standards; links.

DoD Enterprise Software Initiative (ESI)
www.esi.mil
Joint project to implement true software enterprise management process within DoD.

DoD Inspector General Publications
www.dodig.osd.mil/pubs/
Audit and evaluation reports; IG testimony; planned and ongoing audit projects of interest to the AT&L community.

DoD Office of Technology Transition
www.acq.osd.mil/ott/
Information about and links to OTT's programs.

DoD Systems Engineering
www.acq.osd.mil/ds/se
IPolicies, guides and other information on SE and related topics, including developmental T&E and acquisition program support.

Earned Value Management
www.acq.osd.mil/pm
Implementation of earned value management; latest policy changes; standards; international developments.

Electronic Industries Alliance (EIA)
www.eia.org
Government relations department; links to issues councils; market research assistance.

Federal Acquisition Institute (FAI)
www.faionline.com
Virtual campus for learning opportunities; information access and performance support.

Federal Acquisition Jump Station
http://prod.nais.nasa.gov/pub/fedproc/home.html
Procurement and acquisition servers by contracting activity; CBDNet; reference library.

Federal Aviation Administration (FAA)
www.asu.faa.gov
Online policy and guidance for all aspects of the acquisition process.

Federal R&D Project Summaries
www.osti.gov/fedrnd/about
Portal to information on federal research projects; search databases at different agencies.

Federal Research in Progress (FEDRIP)
http://grc.ntis.gov/fedrip.htm
Information on federally funded projects in the physical sciences, engineering, life sciences.

Fedworld Information
www.fedworld.gov
Comprehensive central access point for searching, locating, ordering, and acquiring government and business information.

Government Accountability Office (GAO)
www.gao.gov
GAO reports;policy and guidance; FAQs.

General Services Administration (GSA)
www.gsa.gov
Online shopping for commercial items to support government interests.

Government-Industry Data Exchange Program (GIDEP)
www.gidep.org/
Federally funded co-op of government-industry participants, providing electronic forum to exchange technical information essential to research, design, development, production, and operational phases of the life cycle of systems, facilities, and equipment.

GOV.Research_Center
http://grc.ntis.gov
U.S. Dept. of Commerce, National Technical Information Service (NTIS), and National Information Services Corporation (NISC) joint venture single-point access to government information.

Integrated Dual-Use Commercial Companies (IDCC)
www.idcc.org
Information for technology-rich commercial companies on doing business with the federal government.

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Surfing the Net

International Society of Logistics
www.sole.org
Online desk references that link to logistics problem-solving advice; Certified Professional Logistician certification.

International Test & Evaluation Association (ITEA)
www.itea.org
Professional association to further development and application of T&E policy and techniques to assess effectiveness, reliability, and safety of new and existing systems and products.

U.S. Joint Forces Command
www.jfcom.mil
A "transformation laboratory" that develops and tests future concepts for warfighting.

Joint Fires Integration and Interoperability Team
https://jfiit.eglin.af.mil
USJFCOM lead agency to investigate, assess, and improve integration, interoperability, and operational effectiveness of Joint Fires and Combat Identification across the Joint warfighting spectrum. (Accessible from .gov and .mil domains only.)

Joint Interoperability Test Command (JITC)
http://jitc.fhu.disa.mil
Policies and procedures for interoperability certification; lessons learned; support.

Joint Spectrum Center (JSC)
www.jsc.mil
Provides operational spectrum management support to the Joint Staff and COCOMs and conducts R&D into spectrum-efficient technologies.

Library of Congress
www.loc.gov
Research services; Congress at Work; Copyright Office; FAQs.

MANPRINT (Manpower and Personnel Integration)
www.manprint.army.mil
Points of contact for program managers; relevant regulations; policy letters from the Army Acquisition Executive; briefings on the MANPRINT program.

National Aeronautics and Space Administration (NASA)'s Commercial Technology Office (CTO)
http://technology.grc.nasa.gov
Promotes competitiveness of U.S. industry through commercial use of NASA technologies and expertise.

National Contract Management Association (NCMA)
www.ncmahq.org
"What's New in Contracting?"; educational products catalog; career center.

National Defense Industrial Association (NDIA)
www.ndia.org
Association news; events; government policy; National Defense magazine.

National Geospatial-Intelligence Agency
www.nima.mil
Imagery; maps and geodata; Freedom of Information Act resources; publications.

National Institute of Standards and Technology (NIST)
www.nist.gov
Information about NIST technology, measurements, and standards programs, products, and services.

National Technical Information Service (NTIS)
www.ntis.gov/
Online service for purchasing technical reports, computer products, videotapes, audiocassettes.

Naval Sea Systems Command
www.navsea.navy.mil
Total Ownership Cost (TOC); documentation and policy; reduction plan; implementation timeline; TOC reporting templates; FAQs.

Navy Acquisition and Business Management
www.abm.rda.hq.navy.mil
Policy documents; training opportunities; guides on risk management, acquisition environmental issues, past performance; news and assistance for the Standardized Procurement System (SPS) community; notices of upcoming events.

Navy Acquisition, Research and Development Information Center
www.onr.navy.mil/sci_tech
News and announcements; acronyms; publications and regulations; technical reports; doing business with the Navy.

Navy Best Manufacturing Practices Center of Excellence
www.bmpcoe.org
National resource to identify and share best manufacturing and business practices in use throughout industry, government, academia.

Naval Air Systems Command (NAVAIR)
www.navair.navy.mil
Provides advanced warfare technology through the efforts of a seamless, integrated, worldwide network of aviation technology experts.

Office of Force Transformation
www.oft.osd.mil
News on transformation policies, programs, and projects throughout the DoD and the Services.

Open Systems Joint Task Force
www.acq.osd.mil/osjtf
Open Systems education and training opportunities; studies and assessments; projects, initiatives and plans; reference library.

Parts Standardization and Management Committee (PSMC)
www.dscc.dla.mil/psmc
Collaborative effort between government and industry for parts management and standardization through commonality of parts and processes.

Performance-based Logistics Toolkit
https://acc.dau.mil/pbltoolkit
Web-based 12-step process model for development, implementation, and management of PBL strategies.

Project Management Institute
www.pmi.org
Program management publications; information resources; professional practices; career certification.

Small Business Administration (SBA)
www.sbaonline.sba.gov
Communications network for small businesses.

DoD Office of Small and Disadvantaged Business Utilization
www.acq.osd.mil/sadbu
Program and process information; current solicitations; Help Desk information.

Software Program Managers Network
www.spmn.com
Supports project managers, software practitioners, and government contractors. Contains publications on highly effective software development best practices.

Space and Naval Warfare Systems Command (SPAWAR)
https://e-commerce.spawar.navy.mil
SPAWAR business opportunities; acquisition news; solicitations; small business information.

System of Systems Engineering Center of Excellence (SoSECE)
www.sosece.org
Advances the development, evolution, practice, and application of the system of systems engineering discipline across individual and enterprise-wide systems.

Under Secretary of Defense (Acquisition, Technology and Logistics) (USD[AT&L])
www.acq.osd.mil/
USD(AT&L) documents; streaming videos; links.

USD(AT&L) Knowledge Sharing System (formerly Defense Acquisition Deskbook)
http://akss.dau.mil
Automated acquisition reference tool covering mandatory and discretionary practices.

U.S. Coast Guard
www.uscg.mil
News and current events; services; points of contact; FAQs.

U.S. Department of Transportation MARITIME Administration
www.marad.dot.gov/
Information and guidance on the requirements for shipping cargo on U.S. flag vessels.

Defense AT&L Writer's Guidelines in Brief

Purpose
The purpose of *Defense AT&L* magazine is to instruct members of the DoD acquisition, technology & logistics (AT&L) workforce and defense industry on policies, trends, legislation, senior leadership changes, events, and current thinking affecting program management and defense systems acquisition, and to disseminate other information pertinent to the professional development and education of the DoD Acquisition Workforce.

Subject Matter
We do print feature stories that include real people and events. Stories that appeal to our readers—who are senior military personnel, civilians, and defense industry professionals in the program management/acquisition business—are those taken from real-world experiences vs. pages of researched information. **We don't print** academic papers, fact sheets, technical papers, or white papers. We don't use endnotes or references in our articles. Manuscripts meeting these criteria are more suited for DAU's journal, *Defense Acquisition Review*.

Defense AT&L reserves the right to edit manuscripts for clarity, style, and length. Edited copy is cleared with the author before publication.

Length
Articles should be 1,500 – 2,500 words. Significantly longer articles: please query first by sending an abstract and a word count for the finished article.

Author bio
Include a brief biographical sketch of the author(s)—about 25 words—including current position and educational background. We do not use author photographs.

Style
Good writing sounds like comfortable conversation. Write naturally; avoid stiltedness and heavy use of passive voice. Except for a rare change of pace, most sentences should be 25 words or less, and paragraphs should be six sentences. Avoid excessive use of capital letters and acronyms. Define *all* acronyms used. Consult "Tips for Authors" at <http://www.dau.mil/pubs/damtoc.asp>. Click on "Submit an Article to *Defense AT&L.*"

Presentation
Manuscripts should be submitted as Microsoft Word files. Please use Times Roman or Courier 11 or 12 point. Double space your manuscript and do not use columns or any formatting other than bold, italics, and bullets. *Do not embed or import graphics into the document file*; they must be sent as separate files (see next section).

Graphics
We use figures, charts, and photographs (black and white or color). Photocopies of photographs are not acceptable.

Include brief numbered captions keyed to the figures and photographs. Include the source of the photograph. We publish no photographs or graphics from outside the DoD without written permission from the copyright owner. We do not guarantee the return of original photographs.

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Submission Dates

Issue	Author's Deadline
January-February	1 October
March-April	1 December
May-June	1 February
July-August	1 April
September-October	1 June
November-December	1 August

If the magazine fills before the author deadline, submissions are considered for the following issue.

Submission Procedures
Submit articles by e-mail to defenseatl@dau.mil or on disk to: DAU Press, ATTN: Judith Greig, 9820 Belvoir Rd., Suite 3, Fort Belvoir VA 22060-5565. Submissions must include the author's name, mailing address, office phone number (DSN and commercial), e-mail address, and fax number.

Receipt of your submission will be acknowledged in five working days. You will be notified of our publication decision in two to three weeks.

http://www.dau.mil/pubs/damtoc.asp

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